CRANFIELD UNIVERSITY

H Stebbings

Business Process Resource Networks: A Multi-theoretical Study of Continuous Organisational Transformation

SCHOOL OF MANAGEMENT

DBA

Academic Year: 2005 - 2015

Supervisor: Professor Ashley Braganza (Brunel)

Supervisor: Professor David Denyer (Cranfield)

Co-Supervisor: Colin Pilbeam (Cranfield)

April 2016

Abstract

Drawing on multiple theoretical lenses, this research studies continuous transformation, or 'morphing', of a business process resource network (BPRN). The aim is to further our understanding of continuous organisational change at the lowest levels of analysis within an organisation: that is, at the resource level, and that resource's relationships to other resources as they exist within a BPRN.

Data was gathered from a single, in depth case study. Analysis was achieved by means of mapping BPRN evolution using 'temporal bracketing', 'visual' and 'narrative' approaches (Langley, 1999). The analysis revealed two mechanisms that appear to govern microstate morphing: bond strength and stakeholder expectation. In addition, four factors emerged as important: environmental turbulence, timing and timeliness of changes, concurrency of changes, and enduring business logic.

An emergent model of microstate morphing which acknowledges the importance of socio-materiality in actor network morphogenesis (ANM) is presented. This study shows how effective relationships and configuration of resources within the BPRN can be achieved to facilitate timely, purposeful morphing. Five propositions are offered from the emergent ANM model. Specifically, these relate to the conditional operating parameters and the identified generative mechanisms for continuous organisational transformation within the BPRN.

Implications for practice are significant. A heuristic discussion guide containing a series of questions framed around the ANM model to highlight the challenges of microstate morphing for practitioners is proposed.

Two routes for future research are suggested: replication studies, and quantifying BPRN change in relation to an organisation's environment using a

survey instrument and inferential statistical analysis based on the ANM model features and propositions.

Key words:

Continuous organisational transformation, microstate, business process resource network, dynamic reconfiguration, evolution, exploratory case study, multi-theoretical, causal map, temporal bracketing

Acknowledgements

This work would not have been possible without the enduring commitment, encouragement and support of a number of people, and it is only right to acknowledge their contribution to my personal and professional development:

To Mum and Dad:	*For giving me the thirst for knowledge and the inquisitive mind; I am so sad you aren't here to share my journey - you've been with me every step of the way;*
To David, Emma, and Colin	*For believing in me, for being patient, and for steering me through the twists and turns of my doctoral journey;*
To Ashley	*For seeing me through my darkest days when the sea of red pen was never ending; for not giving me the answers but showing me how and where to look;*
To Barbara B and Alison W	*For being the "good shepherds" of this black sheep*
To Jonathon TC	*For the brain-aching discussions throughout my career and without whose generosity and belief this adventure would not even have been possible*
To Chrisi, Moo and Lily	*For letting me "get on with it" and for loving me all the same*

To all of you – thank you

Contents

Abstract i

Acknowledgements iii

List of Tables xii

List of Figures xiv

List of Publications xvii

1 INTRODUCTION 18

1.1 Chapter Structure 18

1.2 The Research Problem 18

1.3 The Research Process 19

1.4 Identifying Literature Contributions and Deficiencies 23

1.4.1 An Organisation's 'Microstate' 25

1.4.2 Defining the 'Business Process Resource Network' 25

1.5 Outlining the Research Method 26

1.6 The Structure of this Thesis 28

1.7 Chapter Summary 29

2 LITERATURE REVIEW 30

2.1 Chapter Structure 30

2.2 Continuous Transformation: Scholars' Perspectives 30

2.2.1 Planned Views of Change 31

2.2.2 Emergent Views of Change 32

2.2.3 Contingent Views of Change 33

2.2.4 An Improvisational View of Change 35

2.2.5 The Emergence of New Ways of Thinking about Change 36

2.3 Continuous Organisational Transformation: the concept of 'Morphing' ... 38

2.3.1 Theoretical Deficiencies in Dynamic Resource Reconfiguration Logic 41

2.4 Morphing as a Continuous Phenomenon 43

2.4.1 Environmental Uncertainty and Environmental Velocity: their impact on Morphing 46

2.4.2 Resources and Reconfiguration 47

2.5 Addressing the Level of Analysis: The Morphing Locus 51

2.5.1 Defining the unit of analysis: the 'Business Process Resource Network' 52

2.6 Addressing the Theoretical Deficiencies in COT 52

2.6.1 Deficiency 1 (D1): Organisation Theory doesn't describe the Business Process Resource Network, only the Business Process 53

2.6.2 Deficiency 2 (D2): COT doesn't offer a way of describing temporary resource structure evolution 55

2.6.3 Deficiency 3 (D3): COT doesn't describe Resources 57

2.6.4 Deficiency 4 (D4): COT doesn't describe Resource Relationships . 58

2.6.5 Deficiency 5 (D5): COT doesn't explain any Rationale for Evolution 59

2.7 Summarising the Deficiencies in COT Literature 62

2.8 The Research Question 65

2.9 Chapter Summary 65

3 METHODOLOGY 67

3.1 Underlying Research Philosophy: Critical Realism 68

3.2 Identifying the Research Strategy 72

3.3 Research Methodology 76

3.3.1 Enacting the Research: The Exploratory Case Study 77

3.3.2 Defining the Sampling Criteria and Research Target Organisation Entry Qualification 79

3.4 The Research Process 84

3.4.1 Stage 1: Introducing the Researcher and the Research 84

3.4.2 Stage 2: Conducting the Research 86

3.4.3 Stage 3: Preparing the Findings - Data Collection & Analysis 100

3.4.3.1 Data Collection 100
3.4.3.2 Data Analysis 104
3.4.3.1 Understanding the Data 107
3.4.3.2 Developing the BPRN Evolution Map 107

3.5 The research context: First Legal Services: the Organisation in its Environment 113

3.5.1 The CMI Business Process 114

3.5.1.1 Key Case Study / Participant Terminology 115

3.6 Limitations of the Methodology 116

3.6.1 Longitudinal Study 116

3.6.2 Research Engagement 116

3.6.3 Data Asphyxiation 117

3.6.4 Information Sensitivity and Participant Anonymity 117

3.6.5 Software Applications as Supporting Tool Sets 118

3.7 Research Process Summary 119

3.8 Chapter Summary 121

4 FINDINGS 122

4.1 Chapter Introduction 122

4.2 Describing Client Matter Induction as a Business Process Resource Network 122

4.3 Describing the Resources of the CMI BPRN 123

4.4 Examining the Relationships within the CMI BPRN 126

4.5 Developing the CMI BPRN Evolution Map 128

4.5.1 CMI's Ecological Adaptation: Dealing with Everything 131

4.5.2 Layer 1: BPRN Activity 132

4.5.2.1 Summarising Configuration Activity 162

4.5.3 Layer 2: Operational Events in the BPRN Timeline 164

4.5.4 Layer 3: Strategic Events in the BPRN Timeline 167

4.5.5 Layer 4: External Events in the BPRN Timeline 170

4.6 Identifying Triggers for BPRN Evolution 174

4.6.1 External Triggers 174

4.6.2 Internal Triggers 177

4.6.3 Triggers & Their Frequency 180

4.6.4 Understanding Triggers & Time Delay in BPRN Activity 185
4.6.5 Understanding BPRN Activity & Concurrency 186
4.7 Summarising BPRN Evolution 188
4.7.1 Enduring Business Logic 190
4.7.2 BPRN Evolution & Environmental Uncertainty 190
4.7.3 BPRN Evolution & Concurrency 191
4.7.4 BPRN Evolution & the Relevance Time and Timeliness 193
4.7.5 BPRN Evolution & the Relevance of Network Bond Strength 195
4.7.6 BPRN Evolution & Purposefulness 197
4.8 Findings Summary 199
4.9 Chapter Summary 203
5 DISCUSSION 204
5.1 Chapter Introduction 204
5.2 A Brief Review of the Underpinning Theoretical Framework 204
5.3 The Research Question 205
5.4 First Legal Services: The Context for the Client Matter Induction (CMI) Process 206
5.4.1 The Environmental Parameters of the Actor Network Transformation 207
5.4.2 Concurrent Transformation 211
5.5 Addressing the Theoretical Deficiencies in COT 212
5.5.1 D1: Describing the Business Process Resource Network 213

5.5.2 D2: Describing Resource Structure Evolution 213

5.5.2.1 Composition and Configuration Features of Resource Network Transformation 215
5.5.2.2 Transforming the Resource Network Composition: Change the Node 215
5.5.2.3 Transforming the Resource Network Configuration: Change the Relationship 218
5.5.2.4 Transforming the Resource Network Configuration: Closing Structural Holes 221

5.5.3 D3: Describing Resources 224

5.5.4 D4: Describing Resource Relationships 225

5.5.5 D5: Describing the Rationale for Continuous Transformation 226

5.5.6 Transformation Timelines and Timeliness 234

5.5.6.1 Transformation Timelines and Timeliness: Overall Duration 234
5.5.6.2 Transformation Timelines and Timeliness: Duration and Longevity 235
5.5.6.3 Transformation Timelines and Timeliness: Lead Time 236
5.5.6.4 Transformation Timelines and Timeliness: Continuous Morphing 236

5.6 Addressing the Deficiencies in Teece's (2007) model 238

5.7 Towards a Theoretical Model of Actor Network Morphogenesis 240

5.8 Chapter Summary 246

6 CONCLUSION and CONTRIBUTIONS 247

6.1 Chapter Introduction 247

6.2 Conclusion 247

6.2.1 Contribution to Theory 249

6.2.2 Contribution to Practice 257

6.3 Limitations of the Research 262

6.3.1 The Unit of Analysis 262

6.3.2 Longitudinal Study 263

6.3.3 The Multi-theoretical Approach 263

6.3.4 The Multi-Level Perspective 264

6.4 Future Research Directions 264

6.4.1 Replication 264

6.4.2 Modelling ANM in Action 266

6.4.2.1 Research Design 267
6.4.2.1.1 Measures Definition 269
6.4.2.1.2 Survey Content 272
6.4.2.1.3 Question Format, Content & Direction 273
6.4.2.1.4 Ethical Considerations 275
6.4.2.2 Population Targeting & Sample Definition 277
6.4.2.2.1 Characteristics of Respondents 277
6.4.2.3 Measure Characteristics 278
6.4.2.4 Instrument Pilot 279
6.4.2.5 Results Generation 279
6.4.2.6 Validity of Approach & Considerations 279
6.4.2.6.1 Instrument Rationale 279
6.4.2.6.2 Instrument Delivery Considerations 280
6.4.2.7 Limitations and Constraints 280

6.5 FLS Today – An Update since 2008 281

6.6 Personal Reflection 284

6.7 Chapter Summary 286

Bibliography 287

Appendix 1 296

Introductory Letter & Target Organisation Briefing Pack 296

Sampling Interview Template 301

Sampling Criteria Selection Results – The Decision Framework 303

Appendix 2 306

Typology for Describing Resource Relationships 306

Appendix 3 308

Interview Log & Workshop Participants 308

Appendix 4 311

Transcript Extracts – Key Informants 311

Appendix 5 350

Survey: Continuous Organisational Transformation through Business Process Resource Networks (Draft Instrument) 350

List of Tables

Table 1: Continuous Organisational Transformation Concepts 22

Table 2: Marshak's Four Change Scenarios (Marshak, 2004) 45

Table 3: Critical Realism and the Philosophical Approach to Understanding Generative Mechanisms (Bhaskar 1994: p23) 69

Table 4: Exploratory Case Exemplars 78

Table 5: Research Target Sampling Criteria 82

Table 6: Literature Scan – Research in Legal Firms 82

Table 7: Field Descriptions for the Network Capture Template 88

Table 8: Interview Log & Workshop Participants 94

Table 9: Network Definition: The Icon Set Explained 98

Table 10: Data Sources used in Evidence Triangulation 100

Table 11: Documentation Data Sources 101

Table 12: Evidence Triangulation Framework 106

Table 13: Key to BPRN Evolution Map Symbols 112

Table 14: Key Terminology for the Research Setting 116

Table 15: The CMI BPRN: Node Type Identification Reference 125

Table 16: the CMI BPRN Relationship Identification 127

Table 17: BPRN Configurations & Durations 161

Table 18: Operational Reports & Events 166

Table 19: FLS Strategy & the Context for CMI BRPN Evolution – Selected Comments 169

Table 20: Operational Green & Carbon Agenda Key dates – Summary of Influences (sources: strategy documentation; client matters content incoming; SMEs increase in cases in carbon/green agenda related issues; reported global events) 172

Table 21: Outsourcing Summary of Key Dates (sources: reported industry events; IT strategy documentation; strategy briefings) 172

Table 22: External Triggers for CMI BPRN Evolution 175

Table 23: Internal Triggers for CMI BPRN Evolution 180

Table 24: CMI BPRN Mapping Evolution Triggers to Evolution Activity 183

Table 25: CMI BPRN Triggers Identification & Time Lags 186

Table 26: Frequency of Concurrent Events 192

Table 27: Duration Frequency of Concurrent Events 194

Table 28: Proposition Summary 241

Table 29: Underpinning Theoretical Principles & Propositions 242

Table 30: Proposition Summary 250

Table 31: Summary of Contributions to COT Theory 252

Table 32: Network Node Relationship (Tie Type) Classification based on Grandori & Soda(1998) with additional annotation by this author (in bold) to show extended definition 255

Table 33: Positioning Actor Network Morphogenesis with the Literature 257

Table 34 Sampling Criteria Interview Decision Framework 305

Table 35: Business Process Resource Network Relationship Identification ... 307

List of Figures

Figure 1: Illustrative Map of Strategy, Change, and Information Technology Literatures: Contributions to Continuous Organisational Transformation 20

Figure 2: Basic Chain of Logic in Core Dynamic Capabilities cited in Helfat and Peteraf (2009) 40

Figure 3: The logic of dynamic capability (Teece, 2007) – Theoretical Shortcomings 41

Figure 4: Deficiencies in COT Literature 53

Figure 5: The Conceptual Locus for this Study..... 54

Figure 6: Entire Research Methodology 67

Figure 7 : Network Capture Template Observations (page 1) 87

Figure 8: Network Capture Template - Definition Matrix (page 2) 89

Figure 9: Building the BPRN Evolution Narrative & Models 90

Figure 10: Sample Model Output..... 98

Figure 11: Document Analysis Template..... 102

Figure 12: CMI Process Evolution Map Development 103

Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map 110

Figure 14: Research Strategies Summary 120

Figure 15: The Simplified CMI Business Process Resource Network 126

Figure 16: The CMI BPRN Configuration: 1985 and 2009 130

Figure 17: The CMI BPRN Activity: Configurations & Durations (1980 through 2009) 133

Figure 18: Client Matter Induction Business Process Resource Network Configuration (Start) 135

Figure 19: Client Matter Induction Business Process Resource Network Configuration (1) 137

Figure 20: Client Matter Induction Business Process Resource Network Configuration (2) 139

Figure 21: Client Matter Induction Business Process Resource Network Configuration (3) 140

Figure 22: Client Matter Induction Business Process Resource Network Configuration (4) 142

Figure 23: Client Matter Induction Business Process Resource Network Configuration (5) 143

Figure 24: Client Matter Induction Business Process Resource Network Configuration (6) 145

Figure 25: Client Matter Induction Business Process Resource Network Configuration (7) 146

Figure 26: Client Matter Induction Business Process Resource Network Configuration (8) 148

Figure 27: Client Matter Induction Business Process Resource Network Configuration (9) 149

Figure 28: Client Matter Induction Business Process Resource Network Configuration (10) 151

Figure 29: Client Matter Induction Business Process Resource Network Configuration (11) 152

Figure 30: Client Matter Induction Business Process Resource Network Configuration (12)..... 154

Figure 31: Client Matter Induction Business Process Resource Network Configuration (13)..... 155

Figure 32: Client Matter Induction Business Process Resource Network Configuration (14)..... 157

Figure 33: The CMI Operational Events (1980 through 2009)..... 164

Figure 34: The CMI Strategic Events (1980 through 2009)..... 167

Figure 35: The CMI External Context Events (1980 through 2009)..... 171

Figure 36: The CMI Evolutionary Map – Event Conjunction..... 173

Figure 37: CMI BPRN Triggers Frequency..... 184

Figure 38: The CMI BPRN Concurrency of Evolution Event & Alignment with Strategy Phase..... 187

Figure 39: Concurrency of Evolutions..... 192

Figure 40: Towards a Theory of Actor Network Morphogenesis..... 243

Figure 41: ANM in Practice – Heuristic Device (1)..... 259

Figure 42: ANM in Practice – Heuristic Device (2)..... 260

Figure 43: ANM in Practice – Heuristic Device (3)..... 261

Figure 44: FLS Today – Growing the Business..... 281

List of Publications

Stebbings, H. and Braganza, A. (2006), 'Complex Change Design and Morphology: Business IT Alignment, Dynamic Capability and Process Maturity', in Academy of Management Conference: AOM, Atlanta, pp. 1-38.

Stebbings, H. and Braganza, A. (2008), 'Exploring Continuous Organisational Transformation as a Form of Network Interdependence', in British Academy of Management:

Stebbings, H. and Braganza, A. (2009a), 'Exploring Continuous Organisational Transformation: Morphing Through Network Interdependence', Journal of Change Management, Vol. 9, pp. 27-48.

Stebbings, H. and Braganza, A. (2009b), 'The Anatomy of Continuous Organizational Transformation: A Complex Adaptive Systems Perspective', in Academy of Management : AOM, Chicago

Stebbings, H. and Braganza, A. (2010), 'Morphing by Design', Strategy Magazine (Strategic Planning Society), Vol. 26, pp. 14-17.

Stebbings, H., Braganza, A. and Ngosi, T. (2013), ‘The case of customer recruitment processes: Dynamic evolution of CRM resource networks’, Journal of Marketing Management, Vol. 29 (3-4) pp. 439-466

1 INTRODUCTION

1.1 Chapter Structure

In this chapter the research problem is introduced, together with the process undertaken to research the issue. A summary of the extant literature is presented, and the theoretical deficiencies are briefly discussed. Definitions of key concepts are described, and the research method is outlined. Finally the structure of the thesis is described.

1.2 The Research Problem

This research was motivated by professional observation, as an organisation transformation consultant, and a growing recognition in management research, that accomplishing continuous change in organisations remains a challenge even at the lowest levels of business operation.

From experience, the challenge of continuous change is not limited to any specific sectors of the economy. The majority of initiatives for changing are managed through programmes and projects, and are instigated as a means for new product development, or implementation of major IT-enabled change (for example). Many organisational change activities are proactive, designed to gain a competitive advantage in the organisation's operating environment and to create value for those with interests in the outcomes of corporate performance – typically stakeholders. Some organisational change activities are manifested as responses to triggers in the organisation's market place such as regulation, technological advances, or competitor behaviour.

Regardless of the stimulus, the ability to continuously change requires intervention and manipulation of the organisation's integrated resource structures in order to transform.

As a professional transformation practitioner, experience has shown that unless

the lowest levels of business operation are addressed, the challenges of ‘change’ and ‘changing’ will remain. Challenging how organisations continuously transform at the microstate level is therefore the driving force for this work.

In this research, the locus of change is focussed on the continuous transformation or ‘morphing’ of the ‘microstate’ (McKelvey, 1999) of business operation. Business operations are performed by networks of resources – the term Business Process Resource Network (BPRN) is used to describe this construct. Both terms - ‘microstate’ and BPRN - are discussed later in this introduction. Thus the **research question** emerging from the challenge of change and changing at the BPRN level of analysis is:

“How does a BPRN morph over time?”

This research was designed to explore this problem.

1.3 The Research Process

The research process began by reviewing the literature on continuous change and complexity. The historical development of concepts drawn from strategy, organisational change, and information technology discussed in the literature was synthesised to provide a theoretical start point (see Figure 1: Illustrative Map of Strategy, Change, and Information Technology Literatures: Contributions to Continuous Organisational Transformation):

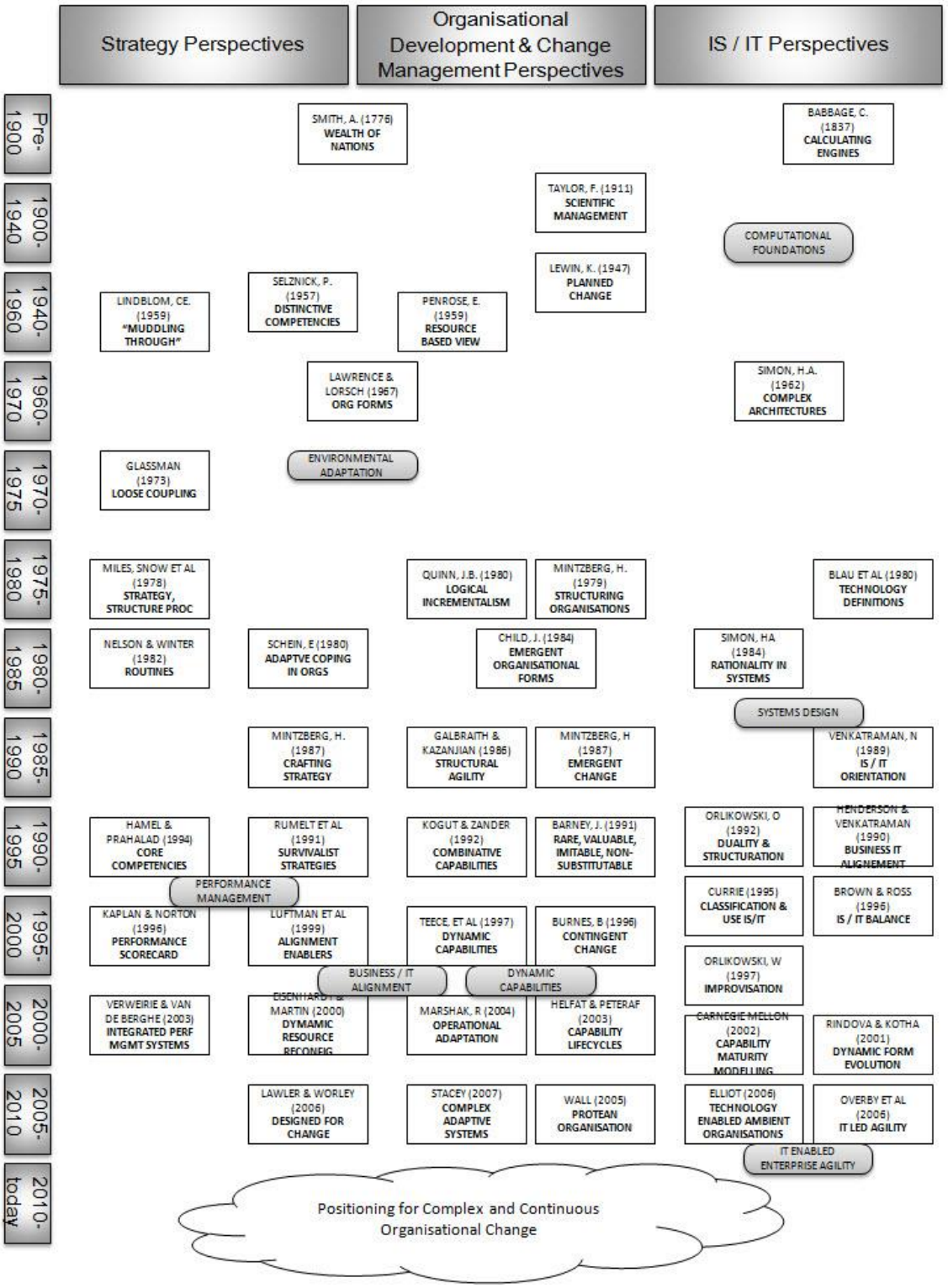


Figure 1: Illustrative Map of Strategy, Change, and Information Technology Literatures: Contributions to Continuous Organisational Transformation

Since this literature is extensive and covers many perspectives of change, it was necessary to focus on contributions that described how scholars have come to think about continuous change, how resource structures evolve, and what mechanisms are involved in evolution.

This initial literature review highlighted several calls for research into continuous change or 'morphing' (the dynamic reconfiguration of resource structures) within firms (not firm-level) (Rindova and Kotha 2001), continuous operational adaptation as a change approach (Marshak 2004), and 'sociomateriality' as the inter-relatedness of humans and material resources as a means of changing (Orlikowski 2007).

Furthermore, there is an increasing recognition in the management literature that topics such as COT – given its complex nature - cannot continue to be researched from only one theoretical perspective or through only one lens (Rousseau and House, 1994; Bhaskar, 2008). Multiple perspectives are needed to bring enriched understanding to complex phenomena.

The literature review then focussed on exploring the topic issues. Table 1: Continuous Organisational Transformation Concepts presents a summary of COT concepts identified from the literature:

Author	**Key Descriptor/Concept**	**Components/Purpose**
Smith (1776)	Networked Adaptive Systems	Network arrangements for bringing together the man-to-man, man-to-machine interfaces throughout all the subsystems of an organisation with those of the larger society
Kogut and Zander (1992)	Combinative Capabilities	Resource reconfiguration mechanisms
Waldrop (1992) Holland (1995)	Anticipatory Adaptive Systems	Deliberate reconfiguration reactivity to events in order to develop advantage through form and function (a dynamic network of elements or agents which act and react with their environment as well as themselves)

Teece, Pisano and Schuen (1997)	Dynamic Capabilities	The capability to adapt, build, integrate or reconfigure other resources and capabilities
McMillan (citing Ashkenas et al (1995) Kauffman (1996)	Adaptive Systems	Non-linear, non-hierarchical, flexible, holistic, and networked resource structures and relationships
Rindova and Kotha (2001)	Continuous Morphing (firm-level)	Evolve-ability; Organic or decentralised forms; Flexibility of resource base; Organisational learning; Layering of resource base including IT/IS
Marshak (2004)	Continuous Operational Adaptation	Sub-system reconfiguration
Marshak (2004)	Continuous Systemic Alignment	Whole system reconfiguration
Wall (2005)	Protean	Organisational agility; Real time information architectures; Process capability;
Stacey (2007)	Complex Adaptive Systems	Agent based model transformation
Orlikowski (2007)	Interdependent Agency	Socio-materiality of Artefacts, Agents and Infrastructures

Table 1: Continuous Organisational Transformation Concepts

Smith's 1776 work on networked adaptive systems was one of the first to consider 'network arrangements' of 'man-to-man' and 'man-to-machine' interfaces throughout an organisation and its interaction with society. Since then, the COT story has developed slowly until the last fifty years which has seen the topic become more prominent in research. The topics examined in COT have ranged from adaptive systems (Waldrop, 1992; Holland, 1995), to on-going firm-level comprehensive resource reconfiguration (Brown and Eisenhardt, 1997; Rindova and Kotha, 2001), to recognising changing organisational sub-systems (Marshak, 2004), and continuous transformation in complex systems (Stacey, 2007).

More recently, Orlikowski (2007: p1435) argues that contemporary forms of organising are increasingly constituted by multiple, emergent, shifting, and interdependent technologies. Yet, our understanding of material forms in organisations remains lacking because we do not recognise 'artefacts' or 'infrastructures' (op cit p1436). Current thinking on how humans and technology interact has emerged through actor-networks (Callon, 1986; Latour, 2005) and relational materiality (Law, 2004). Continuously organising human and material resources is described as 'dynamic assemblage': Orlikowski refers to the inter-relatedness of human and material resources as 'sociomateriality' (2007: p1445).

1.4 Identifying Literature Contributions and Deficiencies

Whilst continuous organisational transformation has emerged as an important concept, and some areas of COT are well researched and developed – such as complexity in adaptive systems (Stacey, 2007) - it remains theoretically under-developed at the micro-level of analysis within organisations (Lewin and Volberda, 1999; Rindova and Kotha, 2001, Marshak, 2004).

The review of literature (Chapter 2) draws upon four main bodies of literature and identifies five deficiencies in our existing understanding of 'how' continuous transformation occurs, particularly at the microstate level. A brief summary of the deficiencies is presented in this introduction but these will be discussed in greater depth in the Literature Review chapter (Chapter 2).

Few studies exist which explore COT at levels of analysis smaller than a single organisation or a single department within a firm and the COT literature is deficient in describing and defining transformation at these lower levels of analysis. Furthermore, the literature review reveals that no single body of knowledge offers an adequate explanation for continuous transformation or an adequate appreciation of the levels within organisations at which transformation

occurs. Thus continuous transformation at the microstate level – ***'microstate morphing'*** - remains theoretically underdeveloped.

Rousseau (1985) argues the case for 'multi-level' examination of phenomena, and in particular, argues for a 'multi-theoretical' or interdisciplinary approach to researching phenomena. She explains that "organizational researchers… require a more detailed specification of the types of organizational unit…since we often generalize from organizations to departments…. we must specify the levels or types of organizational units meaningful to us from the perspective of theory development and empirical generalization" (Rousseau, 1985: p25). Yet there are few examples of multi-theoretical approaches in COT literature.

Consequently, multiple literatures are used in conjunction to mitigate the deficiencies identified. For example: where Actor Network Theory (ANT) offers explanation for the resources as actors (human, processual, material), and a view of scale of those actors (from the single to the societal), other theories do not; conversely, where Social Network Theory (SNT) offers a method for relationship definition, others offer limited if any connectivity description. By the same token, where COT literature accepts evolution through serendipitous development, only Stakeholder Theory (ST) provides a platform from which to argue intent in evolution.

It is only when the principles from these other bodies of knowledge are drawn upon together that they provide a theoretical basis for understanding COT. The lack of explanation from the extant literature raises a number of questions:

Firstly, "How do we define the 'microstate' as a unit of analysis?"

Secondly, "How do we define a model of resources at the microstate level?"

Thirdly, "How do we describe continuous transformation in a microstate resource model?"

To begin to answer these questions, a methodological approach is required. Thus a fourth question, “How do we define a method which enables this data to be explored?” needs to be addressed.

1.4.1 An Organisation’s ‘Microstate’

McKelvey (1999) uses the term “microstate” to describe the smallest units of analysis in complex adaptive systems. The units, he argues, could be particles, molecules, genes, neurons, human agents, or firms. He asserts that the microstate unit of analysis within organisations is process-based (1999, p2), requiring an understanding of microstate process adaptation through time-based sequences of firm-specific events (p6).

McKelvey (1999) describes process adaptation using MacKenzie’s (1986) process ‘law’ in which five components are present (MacKenzie, 1986, p45):

- The entities involved in performing the process;
- The elements used to describe the steps in a process;
- The relationships between every pair of these elements;
- The links to other processes; and
- The resource characteristics of the elements.

In Chapter 3 this framework is used to support the identification of components and relationships within the resource network.

1.4.2 Defining the ‘Business Process Resource Network’

This study adopts McKelvey’s definition (1999, p2) of the ‘microstate’ and adopts the ‘business process’ as the micro-state unit of analysis. The business process was chosen because it represents a co-ordinated and integrated resource structure (Braganza and Lambert, 2000: p179). Co-ordinated and integrated resource structures create systems or networks of resources which,

through their relationships and information exchanges, perform business processes (Smith, 1968). Business processes may comprise many actors and actor types which together create resource networks – the concept of "networked arrangements of resources" (Smith, 1968).

In this study, the Business Process Resource Network is defined as the collection of resource actors which co-exist in relationships, bound by the logic of a business process, which perform together to generate outcomes which are of interest to stakeholders. In addition, Braganza and Lambert (2000) also claim that the business process, as a unit of analysis, is frequently neglected and overlooked because its activities often span functional and hierarchical boundaries (op cit., p180). Moreover, when BPRN are viewed as a collective unit of multiple resource types, there is little to explain transformation. Consequently, a multi-theoretical approach is adopted in this study to address the deficiencies in the literature.

1.5 Outlining the Research Method

This research explores a specific BPRN within a single organisation which had been changing over time. Single exploratory cases are often used to investigate less well researched subjects, or uncover certain phenomena. Moreover, since this research premise is emergent, a single unique case is sufficient to gain insight into a contemporary phenomenon (Eisenhardt, 1989; Yin, 2003).

By way of setting the context for this study, the decision was taken in July 2008 to approach the law firm who were engaged in providing legal advisory services to a national systems integrator. The systems integrator at the time was responsible for the national rollout of government sponsored health-care infrastructure telecommunications and information systems. As part of that engagement, the systems integrator was obliged to renegotiate part of the contract for the provision of the health-care infrastructure services. That

renegotiation took place over several months.

Within this context, my role in the organisation was that of Principal Consultant, engaged to ensure the service obligations for the healthcare end consumers (primarily hospital trusts) were underpinned by the contract. This position provided extra-ordinary access to the legal firm's process to take on new client requirements. The process of "taking on" client requirements as new business is termed "Client Matter Induction" – or CMI - by the legal firm.

This CMI process consisted of a variety of resources – people, systems, processes – which formed a network of resources operating as a business process. As Principal Consultant, I was able to observe first-hand changes being made to the network of resources in the business process. This focus of the BPRN represents the 'contemporary phenomenon' as a single case for emergent theory.

Before undertaking any research, the selection of the legal firm required validation against specific criteria to ensure its suitability. This process is detailed in Chapter 3 (see 3.3.2 Defining the Sampling Criteria and Research Target Organisation Entry Qualification on page 79).

Then, a method was devised to recognise multiple agents and artefacts, and to appreciate multiple types of relationship between those agents and artefacts. This method was developed using principles drawn from the literature that discuss social and actor network evolution (Latour, 2005; Orlikowski, 2007).

The method was constructed using the principles of causal mapping (Snook, 2000) as a framework to develop a timeline of evolutionary activity, which acknowledges multiple levels of activity over time for a single BPRN in a single organisation. The approach also draws extensively on the concept of a 'laminated system' (Bhaskar, 2006) as a way of understanding complex multi-level phenomena.

1.6 The Structure of this Thesis

The remainder of this thesis is structured as follows:

Chapter 2 provides a literature review to examine the bodies of knowledge informing this research and is structured around the deficiencies identified in this introductory chapter. To begin, a summary of change theories is presented. Then the informing theories and their role in explaining BPRN transformation are reviewed. Next, specific research questions emerging from this review are posed, and consideration is given to how others have researched this topic. Finally, the research design for examining the issue of BPRN transformation is identified.

Chapter 3 describes the methodology employed. The approach used to examine BPRN transformation is identified. Then, the importance of multiple perspectives to explain the phenomenon is discussed, and the case study is presented. The data gathering method is described, and the preparation of findings is outlined.

Chapter 4 presents the findings and explores the process evolution map developed using the theoretical perspectives to examine the BPRN events over the timeline.

Chapter 5 provides the discussion surrounding BPRN transformation. The chapter explains the timeline of evolution in terms of microstate morphing. The discussion continues by developing model for BPRN morphogenesis.

Chapter 6 concludes the research by presenting the specific contribution to knowledge and to practice. The findings suggest that there are two generative mechanisms in evidence, as well as four factors affecting the operation of the BPRN. The chapter also offers contributions to research method and promotes the call for further research using multi-perspective time-based analysis of organisational change. This chapter also discusses limitations of the research and highlights areas for further development.

Thereafter the document is structured with the reference material used in the course of this research.

1.7 Chapter Summary

In this chapter the research problem was introduced, together with the process undertaken to research the issue. A summary of the extant literature was presented, and the theoretical contributions and deficiencies were briefly identified. Definitions of key concepts were described, and the research method was outlined. Finally the structure of the thesis was noted.

In the next chapter, the literature is reviewed in greater depth. How scholars have come to think about COT is examined; and how scholars view the unit of analysis is discussed. The underpinning bodies of knowledge are discussed for their relevance, and for their contribution to understanding COT. The theoretical principles are identified from each body of knowledge and presented as a theoretical start-point to inform the research method. Finally, the research question is posed.

2 LITERATURE REVIEW

2.1 Chapter Structure

In this chapter, the literature is reviewed to explore how scholars have come to think about COT by considering the historical 'trains of thought' which have developed in the last fifty years. The emergence of the concept of 'morphing' and how this is viewed by scholars considering environmental uncertainty and dynamic resource reconfiguration is discussed. Next, the BPRN as the unit of analysis is discussed as the organisational locus for morphing.

The deficiencies of the existing literature are presented by discussing the underpinning bodies of knowledge for their relevance, and for their contribution to understanding COT. Then the theoretical principles identified from each body of knowledge are presented as a start-point to inform the research method. Finally, the research question is posed.

2.2 Continuous Transformation: Scholars' Perspectives

The problem of studying organisational change, according to Emery and Trist (1965), is that the contexts in which organisations exist are themselves changing, at an increasing rate, and towards increasing complexity (Emery and Trist, 1965: p1). Emery and Trist (1965) explain this change though the concept of environmental connectedness and 'turbulent and dynamic' operating conditions. Organising firms' resources in turbulent and dynamic environments remains an important topic for research.

Marshak (2004) argues that historical ways of thinking about change are limiting scholars' ability to address such emergent, dynamic and turbulent environments. He argues that incremental and 'start-stop' models of change are insufficient to address the needs of organisations because, as Emery and Trist (1995) noted, those environments are increasingly uncertain, complex, and

seemingly change at increasingly faster rates. The concepts of environmental uncertainty and environmental velocity are discussed later in this chapter.

Marshak (2004) suggests that 'start-stop' models of change are becoming less appropriate to manage transformation as it is necessary to have flexible and responsive resource structures. It has been argued that pursuing advantage lies in continuously reconciling organisational form and functional requirements with environmental circumstances through dynamic capability (Teece et al, 1997; Eisenhardt and Martin, 2000). However, few organisations are designed or built to change dynamically, and many continue to pursue stability and equilibrium regardless or circumstance (Lawler and Worley, 2006).

The last twenty years has seen research focussed on rapid and relentless change in high velocity industries (Brown and Eisenhardt, 1997), improvisational change at more micro-levels of analysis (Orlikowski and Hoffman, 1997), continuous creation of temporary resource structures (Stacey, 1995), and constant adjustment of resource structures to resolve adaptive tensions (McKelvey, 2004). And yet, the difficulty lies in the absence of theory and explanation to cater for continuously changing organisations (Marshak, 2004).

An examination of the COT literature identified shows that organisation change theory has been shaped by four lines of thinking: planned change (e.g. Lewin, 1947); emergent change (e.g. Mintzberg, 1987); contingent change (e.g. Burnes, 1996); and improvisational change (e.g. Orlikowski and Hofman, 1997).

This next section discusses each of these views of change.

2.2.1 Planned Views of Change

Planned change typically results from managers, stakeholders and organisational decision makers recognising the mismatch between deep organisation structure and the conditions of the environment (Lewin, 1947;

Weick and Quinn, 1999). Change activity to address this mismatch is focused towards re-establishing equilibrium with the environment. The assumption this carries is that the environment remains static while the organisation rights itself. When the external conditions alter, change processes are invoked again. This creates the cycle of stability and instability associated with unfreezing, changing and refreezing (Lewin, 1947).

Planned change recognises structural adaptation at strategic, or macro, levels of organisation (Weick and Quinn, 1999). Planned changes are often short-lived because refreezing (the embedding of new structures and inter-relationships) had limited time to materialise before the requirement to change is identified again. This can lead to planned, staccato-like episodes of short-term adaptations (Gersick, 1991).

The criticism levied at planned change approaches is that they seemed to work best when extrapolating the present or dealing with incremental change within the existing strategic perspective (Mintzberg, 1993). However, as environmental conditions evolved, adaptation often lags behind (an inertial effect), and the desire for change increases (Weick and Quinn, 1999). Such lags in adaptation often lead to revolution (Venkatraman, 1991) or reinvention (Champy and Hammer, 1995) as a means to re-align the organisation's structure to operate effectively in the environment conditions. Consequently, planned change tended to deal less well with unstable, unpredictable situations (Mintzberg, 1993).

2.2.2 Emergent Views of Change

Where planned change embraced stability and control, emergent change embraces discontinuity (Mintzberg, 1993). Whilst visionary approaches are used to encompass a world of possibilities, the broad picture may only have come into focus as the details of change emerged en route (Mintzberg and Waters, 1985). As a result, change comes about from the combination of

intended strategy, environmental condition, and realistic choice (Mintzberg and Waters, 1985).

Emergent change is not, then, the absence of planned activity; rather it is the realised activity that results from proceeding with caution (Mintzberg, 1993). Change is partly intentional (the rational continuation), incremental (the next logical step in a broadly defined strategy), and becomes a cumulative means of achieving a desired end state (Mintzberg and Waters, 1985). The underlying assumption is that the change required is determined and enacted step-by-step within an organisation (Mintzberg and Waters, 1985).

One criticism of this emergent approach is that changes are enacted in an ad-hoc or piecemeal manner (Burnes, 1997). The scale and scope of intermittent changes are often grouped together in a programme of organisational change on the pretext of rational planning (Mintzberg, 1993). Change occurs as a result of trying to realise intentions whilst at the same time recognising environmental conditions (Mintzberg and Waters, 1985). However, Burnes (1997) argues that this emergent change approach and its piecemeal addressing of environmental challenges renders the organisation a prisoner of circumstance.

2.2.3 Contingent Views of Change

The recognition of the environmental challenges faced by organisations in dealing with the need to change led to the development of contingent views of change (Ansoff, 1991; Burnes, 1996). The principle guiding contingent change is that organisations adjust their structures to cater for their specific circumstances (Burns and Stalker, 1961; Lawrence and Lorsch, 1967). This is an open systems perspective of change which characterises the organisation as undergoing open-ended adaptations catering for both internal resource structure constraints and external environment uncertainty (Burnes, 1997).

Burns (1996) argues that internal resource structure constraints and external environment can be aligned but there is no one best way to manage change

(Burnes, 1996). Changes invoked in response to environmental circumstances affect different layers of the organisation – the structural, technological and psycho-social and managerial sub-systems (Burnes, 1996) These sub-systems interact with each other, and change on one affects another (Burnes, 1996). This contingency view recognised that sub-systems of an organisation also need to fit together. Changes invoked in response to environmental circumstances therefore affect all levels of organisation including its subsystems (Burnes, 1996).

Dunphy and Stace (1993) argued that situation-driven change was becoming more appropriate to manage change. They argued that since no two organisations are the same, the way they managed situational variables will be different. Yet contingency based approaches are criticised for failing to relate 'changing' to improve organisations' performance (Burnes, 1996). The underlying assumption is that organisations have little influence or choice over situational variables (Dunphy and Stace, 1993; Burnes, 1996). Yet whilst an organisation may not have control or influence in its external environment – the market place in which it is operating for example – there are choices and responses which can be made in reaction or in anticipation of environmental circumstance.

Dunphy and Stace (1993) suggested that choices and responses made in reaction or anticipation resulted in contingent approaches to change. Managing the scope of change then becomes an open-ended series of adaptations which depend on reconciling circumstances and resource structures with environment (Dunphy and Stace, 1993; Burnes, 1997). Continuous adaptations to resource structures within the organisation then become increasingly important in enabling strategic fit overall (Burnes, 1996).

2.2.4 An Improvisational View of Change

Later studies show that on-going adaptations make it possible to respond to conditions or circumstances as they arise, rather than reverting to re-planning before action is taken (Orlikowski and Hofman, 1997). The increasingly complex nature of adapting resource structures which include technology was noted by Orlikowski (1992). Changes and changing are described as ongoing yet not-necessarily predictable activities (Orliklowski and Hofman, 1997). In short, organisations have begun to 'improvise' to meet the challenges of reconciling form, function and environment (Orlikowski and Hofman, 1997).

Improvisation differs from the contingency approach because contingent change 'waits' for circumstance before proceeding to implement any one of a range of predetermined solutions. Improvisation carries on the same course of action exploiting whatever resources are available – even substituting resources or technologies where necessary (Orlikowski and Hofman, 1997).

The improvisational view of change is characterised by two important differentiators from previous schools of thought on change. Firstly, that complex change does not have a specific, time-bound end-point for a return to stability (Orlikowski and Hofman, 1997). Returning to 'stable states' is a feature of planned, emergent and contingent views – where the change activities 'stop' and business continues with altered structures and systems. With improvised change, change activities continue to create altered structures and systems while the business operation is maintained.

The second assumption is that the implications of complex change cannot be known until after implementation (Orlikowski and Hofman, 1997). These assumptions give rise to the three types of improvisation - anticipated, emergent, and opportunistic change - which characterise ongoing adaptation (Orlikowski and Hofman, 1997: p13). 'Anticipated', 'emergent' and

‘opportunistic’ change resonates with the views of contingency and emergent change.

Yet improvisation carries with it the continuous requirement to create structures and systems to exploit (for example) emergent technologies. As Orlikowski and Hofman note, “...effectively executing an improvisational change model also requires aligning the technology and the organizational context with the change model. Such alignment does not happen automatically. It requires explicit and ongoing examination and adjustment, where and when necessary, of the technology and the organization” (Orlikowski and Hofman, 1997: p20-21).

2.2.5 The Emergence of New Ways of Thinking about Change

The above discussion offers four perspectives of change. These are summarised as follows:

- Planned approaches work best when extrapolating the present or dealing with incremental change within the existing strategic course of action;
- Emergent approaches cater for the need to change in an ad hoc or piecemeal manner;
- Contingent approaches enable open-ended adaptations catering for internal constraints of resource structures and the uncertainties of the external environment; and
- Improvisation approaches enable ongoing adjustment of resource structures and exploitation of environmental factors including technological developments.

These views of change assume that organisations aim to achieve a harmonious balance between their operating environments, their resource constraints, and their expectation of competitive advantage. However, organisations are responding continually to external and internal factors that drive change. Burnes (1997) noted that this rendered any organisation a prisoner of circumstance. Where organisations have little influence or choice over

circumstance, iterative reorganising takes place – a characteristic of episodic (the 'start-stop') models of change.

Marshak's (2004) argument is that traditional models of managing change are becoming unsuitable in today's challenging business environment. This is because traditional models carry the assumption that at some point, the need to change 'stops', so organisational evolution 'stops'. Marshak's view is supported by Lawler and Worley (2006) who argue that change theories which assume alignment, equilibrium or harmony, between organisations' internal structures and resource configurations and their organisational operating environment, can be achieved are inadequate for the future. Furthermore, they argue that such theories are also inappropriate to explain the continuous evolutionary adaptation of organisational form.

According to Brown and Eisenhardt (1997: p1) organisations survive in high velocity industries because they engage in rapid and relentless change. Brown and Eisenhardt (1997) use the term 'relentless' to mean unceasing, continual and persistent evolution. And as noted by Burnes (2004), rapid and relentless change entails constantly adapting organisation-wide resource structures to the demands of both the external and internal environment.

At more micro levels, ongoing adjustments and adaptations of organisation and technology at operational levels, as improvisational change, are one example of engaging in such constantly changing conditions (Orlikowski and Hofmanm 1997). The improvisations, as discussed by Orlikowski and Hofmann (1997), are typical of incremental changes characterised by successive but limited shifts (Burnes, 2004).

The lines of thinking discussed above all reflect some aspect of scale, pace, nature of change, and the conditions of the environment. They have one facet in common: all focus on the pursuit of competitive advantage. Pursuing advantage lies in continuously reconciling form and functional requirements with

environmental circumstances through dynamic capability (Teece et al, 1997; Eisenhardt and Martin, 2000). However, few organisations are designed or built to change dynamically, and many continue to pursue stability and equilibrium regardless or circumstance (Lawler and Worley, 2006).

The issue of how, and in what ways, organisations adapt (or even reconcile) form and function with environmental circumstances still remains. Additionally, the literature gives limited examples of how continuous change is effected, and at what level of organisation such continuous change is presented.

Nevertheless, By's (2005) review of organisational change and change management suggests two things that scholars have agreed upon. Firstly, that the pace of change has never been greater. Secondly, change is triggered by internal or external factors, comes in all shapes, forms and sizes, and affects all organisations across all industries.

Save for Demil and LeCocq (2010)'s discussion of business model evolution (focussing on the core components of the firm), very little evidence is forthcoming to explain continuous transformation.

2.3 Continuous Organisational Transformation: the concept of 'Morphing'

At the firm level of analysis, Rindova and Kotha (2001) define "morphing" as the process of "comprehensive ongoing transformations" (2001: p1263). Specifically, morphing describes how internal resource structures are dynamically reconfigured to generate transient advantage in hypercompetitive environments (Rindova and Kotha, 2001). By way of definition, 'transient advantage' is the term used to describe the temporary competitive advantage achieved by firms until such time as its erosion by competitors and circumstance (Rindova and Kotha, 2001).

Rindova and Kotha's (2001) case of the internet industry technology platform and portal development is one of the first to identify firm-wide continuous transformation. Further, that continuous, dynamic transformation – "morphing" - affects the outputs of organisations as well as the configurations of resources employed to deliver those outputs.

Extant literature has shown that dynamic transformations of form and function are intended to generate transient advantage (Rindova and Kotha, 2001; Eisenhardt and Martin, 2000). Yet whether advantage is secured remains unknown until the dynamic transformations are (or have been) enacted. Indeed, Stacey (1995) argues that the only way to ascertain outcomes from dynamic transformation is to operate the temporarily created resource structures and processes in the organisation.

Even if new resource configurations are in place through dynamic transformation, such configurations may not deliver expected outcomes (Waldrop, 1994). Developing transient advantage results when new resource forms are enacted as quickly as possible (Teece, Pisano and Shuen, 1997; Eisenhardt and Martin, 2000). Thus the challenge of relating structure to performance outcomes remains, and only time will tell if advantage is realised (Burnes, 1996; Burnes, 2004).

Many organisational change activities are proactive, designed to gain a competitive advantage in the organisation's operating environment and to create value for those with interests in the outcomes of corporate performance. Some organisational change activities are manifested as responses to triggers in the organisation's market place such as regulation, technological advances, or competitor behaviour. Regardless of the stimulus – be it for example a new technology being available from industry, or a management directive to control costs within the firm - the ability to continuously change requires intervention and manipulation of the organisation's integrated resource structures in order to transform.

Despite the seminal work of Rindova and Kotha (2001) in offering 'morphing' as a firm-level means of continuous transformation, there is very little further contribution to the concept. With the exception of Teece's (2007) model to offer logic to the dynamics of dynamic reconfiguration, little has been written to offer any mechanisms or explanation.

In essence, dynamic capabilities refer to the capacity of an organisation to purposefully create, extend, or modify its resource base (Teece, Pisano and Shuen, 1997; Eisenhardt and Martin, 2000; Teece, 2007). Figure 2: Basic Chain of Logic in Core Dynamic Capabilities cited in Helfat and Peteraf (2009) shows the development of the resource reconfiguration logic presented in literature thus far:

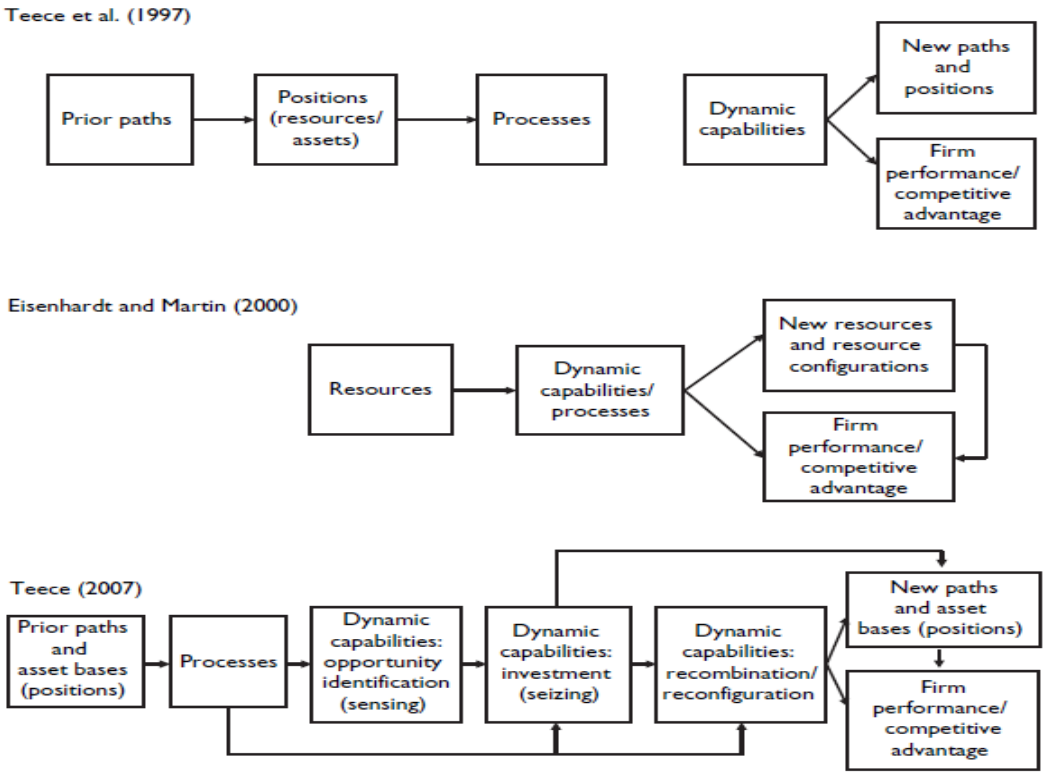


Figure 2: Basic Chain of Logic in Core Dynamic Capabilities cited in Helfat and Peteraf (2009)

Whilst this description offers the logic of how dynamic capability contributes to transformation, there remains a lack of description for the mechanisms engaged

in transformation, or at whose behest transformation takes place. Only Teece (2007) offers 'asset orchestration' as a means of description, but this is limited to the function of managerial oversight rather than offer description for the mechanisms of 'asset orchestration'. Nor does the literature offer description for the rationale for evolution – only that oversight is a factor. Consequently, in additional to the deficiencies in the wider body of COT knowledge, there remain shortcomings in explanation and description for Teece's (2007) model.

2.3.1 Theoretical Deficiencies in Dynamic Resource Reconfiguration Logic

The COT literature lacks theoretical description for how transformation takes place – the 'dynamics' of dynamic capability. The nearest model which addresses dynamic capability and the premise for continuous morphing is that proposed by Teece (2007) replicated and annotated from Figure 2 above to provide greater clarity (see Figure 3: The logic of dynamic capability (Teece, 2007):

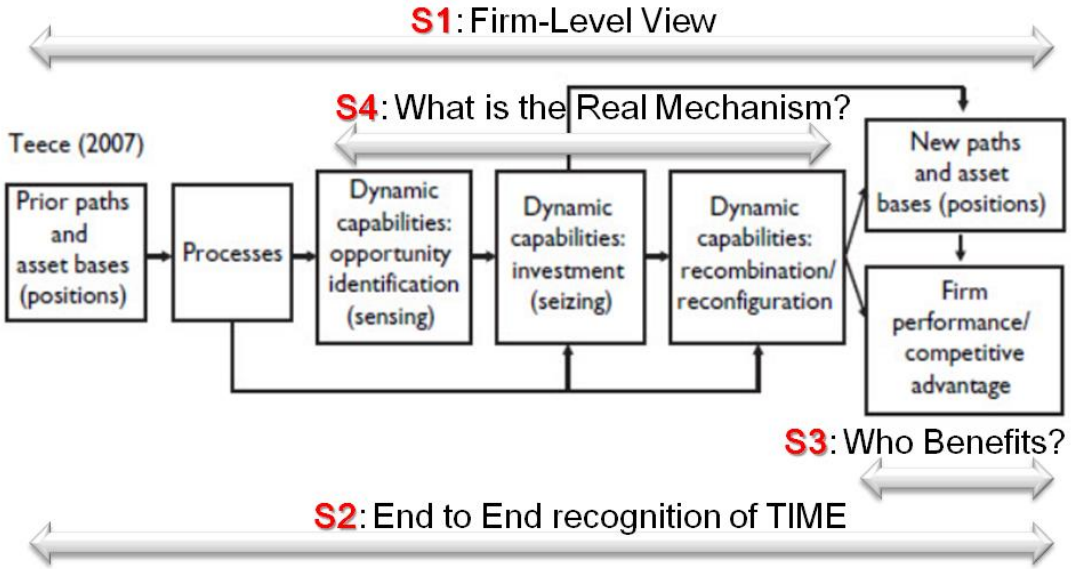


Figure 3: The logic of dynamic capability (Teece, 2007) – Theoretical Shortcomings

The model developed by Teece (2007) focuses on the logic of dynamic reconfiguration – specifically on the reason for the creation of new paths and asset bases to create organisational advantage. There are four short-comings (noted as S1, S2, S3 and S4 within the figure above) in explanation of this model:

First: that the model assumes a firm-level of organisation at which this logic operates [S1];

Second: that the model does not acknowledge 'time' in the timeliness of dynamic reconfiguration – only that '"sooner, more astutely or more fortuitously" (Eisenhardt and Martin, 2000) is an operating assumption for the model: there is little mention of 'timing' and 'timeliness' [S2];

Third: the model does not identify the recipients of advantage other than 'the firm' [S3];

Fourth: the model focus is on the strategies for dynamic reconfiguration – opportunity, investment, and reconfiguration [S4].

Teece's (2007) model begins with the firm's assets performing processes, which are changed through dynamic capabilities to produce configurations which lead to advantage. The model begins with an arrangement of organisational assets which perform processes. The outcomes from these processes lead to three options, noted as sensing opportunity, seizing resource through investment, and reconfiguring resources. All three options lead to a new configuration of resources noted in Figure 3: The logic of dynamic capability (Teece, 2007) as new asset bases and positions, which in turn lead (one hopes) to competitive advantage.

Considering S1 in Teece's (2007) model, the assets are located at the firm-level of analysis. Reconfiguration activity is firm-wide and asset-base specific. Change activity is managed via orchestrated firm-wide intervention. There is no

‘mechanism’ which describes asset orchestration or arrangement, or whether this is managed as groups of resources, or individual resources, or even the resource types.

Considering S2 in Teece’s (2007) model, there is no concept of the relationship between reconfigured assets and competitive advantage. Only the premise that ‘“sooner, more astutely or more fortuitously” (Eisenhardt and Martin, 2000) is an operating assumption for the model.

Considering S3 in Teece’s (2007) model, there is no identification of the recipients of advantage other than ‘the firm’. There is also no explicitly identified link between change activity to advantage.

Finally in considering S4 in Teece’s (2007) model, the focus is on the strategies for dynamic reconfiguration – opportunity, investment, and reconfiguration. There is no mention of the specific actions which relate stakeholder expectation with specific movements of resources, or specific changes between resources. Furthermore there is no mention of ‘time’ or its relationship to the reconfiguration of assets and the achievement of advantage. The model logic ‘ends’ (in effect) at ‘competitive advantage’ on the assumption that it is achieved. The model falls short of challenging the assumption of ‘what happens if advantage does not materialise from the orchestrated asset base’.

These model deficiencies are discussed in greater detail in Chapter 5.

2.4 Morphing as a Continuous Phenomenon

The literature reviewed thus far suggests that longevity of advantage increases when delays between resource reconfigurations are reduced. Furthermore, by engaging in rapid and relentless resource reconfiguration, delay between configurations could – hypothetically - be minimised to the extent that delay no longer exists. As a result, transformation of the organisation’s resources could be regarded as continuous.

In high velocity external environments, the pace of adaptation is critical (Biedenbach and Soderholm, 2008). This presents an additional challenge for resource reconfiguration response rates - that is, the rate of adaptation of the resources present in relation to the environmental stimuli. Continuous transformation and adjustment to environmental circumstances creates adaptive tensions where the time it takes for internal resource structures to evolve conflicts with the rate at which environmental changes occur (McKelvey, 2004).

Consequently, resource configurations exist only because they maintain balance between flexibility and stability (McKelvey, 2004; Holland, 1995; Stacey, 2007). Maintaining this balance of 'flexible yet stable' resource structures creates a condition of bounded instability – known as the "edge of chaos" (Waldrop, 1992; Dooley, 1997; Stacey, 2007). This 'edge of chaos' is the point at which the organisation interacts constantly with the external environment to transform in anticipation and response.

For organisations, having such flexible resource configurations means that 'changing' is easier to achieve; that having dynamic resource structures means response rates to change stimuli are quicker. By contrast, set configurations or patterns of resources engender upheaval and episodic reconfiguration to achieve change.

Marshak (2004) identified 'morphing' as one of four change scenarios which identified the scope, the scale and the pace of organisational change. Table 2 (below) presents a summary of these aspects in order to illustrate the scope and nature of continuous change:

Dimensions	Focus on Parts / Segments	Focus on Patterns / Whole
Episodic	Periodic Operational Adjustment • Gap Analyses • Fix-its	Periodic Systems Rearrangements • Reengineering • System redesign
Continuous	Continuous Operational Adaptations • Ongoing Improvements • Kaizen / TQM	Continuous Systemic Alignments • Ongoing Organising • Morphing

Table 2: Marshak's Four Change Scenarios (Marshak, 2004)

Marshak's scenarios identified above allow us to identify focal points in organisations where change occurs. The 'episodic' dimension suggests change activity that is planned or contingent in nature. Improvisational change (Orlikowski and Hoffman, 1997) for example, is situated in the Parts/Segments dimension. Improvisations may also be thought of as periodic adjustments or as continuous adaptations – thus their pace of change may be episodic or continuous. Rindova and Kotha's work on 'morphing' at the firm level is situated in the quadrant Marshak (2004) identifies as 'continuous systemic alignment' which encompasses 'ongoing organising'.

'Ongoing organising' occurs as organisations address imbalances between environmental pressures and organisational resources (Rindova and Kotha, 2001). The pace of change then becomes important to understand as, by definition, 'continuous' implies ceaseless, sustained and perpetual activity. In hypercompetitive, high velocity industries the pace of change is noted as being 'rapid and relentless' (Brown and Eisenhardt, 1997). Constant adaptation is required to meet the demands of the environment (Burnes, 2004). There is an issue of temporality to consider at this point, specifically the pace of change for both environmental circumstance and organisational evolution.

Thus the context for rapid and relentless organisational change – morphing - is considered by reviewing firstly, the topics of environmental uncertainty and environmental velocity; and secondly, the topic of resource reconfiguration.

2.4.1 Environmental Uncertainty and Environmental Velocity: their impact on Morphing

"A main problem in the study of organisational change is that the environmental contexts in which organisations exist are themselves changing, at an increasing rate, and towards increasing complexity" (Emery and Trist, 1965: p1). Thus the concept of environmental connectedness and definition of 'turbulent and dynamic' operating conditions in which firms operate was identified. Organising firms' resources in turbulent and dynamic environments is still a research focal point.

Emery and Trist (1965) suggested that organisations operating in 'turbulence' experienced 'dynamism' on two fronts: firstly, that the organisation itself and its relationships were becoming increasingly complex, and secondly, that the 'field' in which the organisation operates (its wider placement in the context of its industry for example) is also highly changeable. Turbulence stems from the complexity and multiple character of causal interconnections 'in the field' (Emery and Trist, 1965; p31), as well as the interactions of the organisation's own systems.

Emery and Trist (1965) suggest that organisations operating in turbulent environments are "constructively adaptive" – a concept which has developed to be described by various authors as:

- continuous creation of temporary resource structures (Stacey, 1995);
- comprehensive and ongoing transformations (Rindova and Kotha, 2001);
- constant adjustment of resource structures to resolve adaptive tensions (McKelvey, 2004).

The concept of environmental turbulence has more recently developed to include 'velocity' (McCarthy, Lawrence and Wixted, 2010). Velocity is an indicator of the pace and direction of change within an organisation's environment.

McCarthy et al (2010) introduce five dimensions of environmental velocity. These dimensions relate to technology, products, demand, regulatory pressures, and competition (McCarthy et al, 2010: p609). Additionally, McCarthy et al (2010) introduce the aspect of inter-relatedness between these dimensions to show the extent to which they interact – know as a 'coupling' effect. McCarthy et al (2010) suggest that greater synchronisation of internal resource reconfiguration ('internal entrainment') with external pressures ('external entrainment') is typical of a time-conscious continuously transforming organisation.

The way in which an organisation's environment changes – and how it changes in terms of the environmental dimensions identified – has an impact on continuous transformation. Consequently, resource configurations exist on a temporary basis only because they maintain synchronicity with the environment, and balance between flexibility and stability. Thus the next topic to consider is resource reconfiguration and how it is viewed in the literature.

2.4.2 Resources and Reconfiguration

'Resources' are those actors which possess a capability within an organisation. Resource based theory informs us that configuration and exploitation of available resources can be used to create capability advantage (Penrose, 1951; Barney, 1991, 2001; Peteraf, 1993). This definition is extended to include 'relational capability', created by specific resource relationships which work in conjunction with each other.

Latour (2005) describes resources as the shapes and figures of those [actors] assembled to make them act as a durable whole. The description of resources

is not then limited to human individual actors, but includes non-human, non individual entities. The associations between those actors provide the basis for understanding relationships. Even though 'associations' between actors are poorly defined when resources are viewed through the Actor Network Theory lens, the resource view does not provide sufficient description of resources or relationships. At least ANT offers far more detailed description of material actors, their forms and their relationships.

Orlikowski (2007) argues that our understanding of material forms in organisations remains lacking because we do not recognise 'artefacts' or 'infrastructures' (op cit p1436). Yet current thinking on how humans and technology interact has emerged through actor-networks (Callon, 1986; Latour, 2005) and relational materiality (Law, 2004). Continuously organising human and material resources ('dynamic assemblage') refers to the inter-relatedness of human and material resources - the 'sociomateriality' of continuous transformation (Orlikowski, 2007: p1445).

Marshak (2004) suggests that continuous transformation – morphing through ongoing organising - takes place in patterns of resources within organisations. Patterns of resources exist through inter-relationships. Specific patterns of resources are frequently thought of in terms of 'networks' – thus it is from Social Network Theory, as a contributory body of knowledge to COT, from which theoretical principles are drawn.

The concept of the network form in organisational research is not new: network forms in organisations were identified in the late 18th century by philosopher and economist Adam Smith (1776). However, network forms were little understood until (another) Smith (1968) began describing them as "network arrangements for combining man-to-man, and man-to-machine interdependencies" (Smith, 1968: p14). Smith recognised that such network arrangements are temporary and must adapt to rapid and continuous change (Smith, 1968: p17).

Existing bodies of knowledge consider networks at industry-level, organisation or firm-level, and departmental levels of analysis. For example, networks of individuals are considered by Granovetter (1973, 1982) and Grandori and Soda (1998). Group based networks in organisations are considered by Miles and Snow (1986). Networks of organisations are considered by Dyer and Singh (1998).

Yet there is limited research on how and why specific resource networks in organisations emerge and change over time. Networks of resources act within environments as well as themselves (Miles and Snow, 1986; Baum and Singh, 1994; Rothaermel and Hess, 2007). In acting and reacting over time, networks evolve through two means: through relationship changes (Granovetter, 1982; Grandori and Soda, 1998) and through composition changes (McPherson, Popielarz and Drobnic, 1992).

Relationship changes are thought of in terms of their relative strength between members of the network. Granovetter (1982) describes network evolution through changes in the nature of the relationships. The exploitation of weak ties facilitates network bridging - that is, the membership of multiple networks at specific points within the network (Granovetter, 1982). Nelson and Matthews (1991) note that high performing organisations exhibit more weak ties between members of resource networks. High performing organisations also exhibit higher numbers of sub-system strong ties and more sub-system very strong ties than low performers (Nelson and Matthews, 1991).

In addition, there are attributes of relationship ties which influence the strength of relationship between resource elements. The attributes concern the criticality of the content being exchanged between elements, and the importance of time in that exchange (Grandori and Soda, 1998). The matrix derived from these attributes of content and timeliness provides a means to describe the exact nature of relationship between network elements. To change the content or to change the timing of exchanges between network resources therefore affects

relationship strength (Grandori and Soda, 1998). The variable strength of relationships is therefore a factor in the evolution of resource networks.

In the same way as relationships change in a network, so too can the resources themselves. These are the composition changes noted by McPherson et al (1992). Yet their study only provides examples of how social actors engage or disengage through relationship exploitation. Their principle finding was that network composition changes more when weak ties are present in a network. Again, this finding (whilst informative) is limited to social actors, and no explanation is forthcoming for any other actor type.

SNT's strength is that it offers a way of considering actor-relatedness by using principles established to identify social-to-social element relationships. In particular, relationships are described by Grandori and Soda (1998) using information criticality and time sensitivity as measures of inter-relatedness strength. SNT's weakness however is that it fails to recognise "non-human" elements.

Latour (2005) offers 'features of agency' to offer insight and understanding of interactions beyond the 'human element'. First, 'agency' exists when something, or someone, does something, as part of an account of an event. Second, Latour notes that what is doing the action is always provided in the account with some flesh and features that make them have some form or shape, no matter how vague – a 'figuration'. This 'figuration' combined with 'agency' is what makes 'objects' become participants in the course of action (Latour, 2005: p83).

However, as Latour also notes, "there is nothing more difficult to grasp than social ties. It's traceable only when it's being modified" (op cit: p159). Yet telling the story of transformation through Actor Network Theory is only possible when using social description. In short, neither ANT nor SNT is robust enough on its

own to provide sufficient theoretical description to explain ‘dynamic assemblage’ or resource reconfiguration.

2.5 Addressing the Level of Analysis: The Morphing Locus

Few (if any) studies exist which explore transformation at the smallest levels of analysis. McElvey (1999) uses the term ‘microstate’ to identify the smallest units of analysis in complex, adaptive systems. As noted in the Introduction, the microstate unit of analysis within organisations is process-based (McElvey,1999).

McElvey (1999) also argues that understanding microstate process adaptation requires research using time-based sequences of firm-specific events (p6). Furthermore, he extends the research call to include agent based models to explain microstate process adaptation (p6).

McKelvey (1999) describes process adaptation using MacKenzie’s (1986) process ‘law’ in which five components are explored (MacKenzie, 1986, p45):

- The entities involved in performing the process;
- The elements used to describe the steps in a process;
- The relationships between every pair of these elements;
- The links to other processes; and
- The resource characteristics of the elements.

The deficiency of explanation in COT literature of ‘how’ continuous transformation occurs at the microstate level of analysis is thus the gap this research seeks to address. The first step in addressing this insufficiency of explanation is to define the unit of analysis for study.

2.5.1 Defining the unit of analysis: the 'Business Process Resource Network'

In this study the Business Process Resource Network is defined as the collection of resource actors which co-exist in relationships, bound by the logic of a business process, which perform together to generate outcomes which are of interest to stakeholders. The selection of the "business process" as a micro-level unit of analysis is chosen because it represents a co-ordinated and integrated resource structure (Braganza and Lambert, 2000: p179).

Co-ordinated and integrated resource structures create systems or networks of resources which, through their relationships and information exchanges, perform business processes (Smith, 1968). Business processes may comprise many actors and actor types which together create resource networks – the concept of "networked arrangements of resources" (Smith, 1968). Business processes comprise many actors that are engaged to perform functions which contribute to outputs of the organisation. Such outcomes from business processes are of value to stakeholders (Braganza and Lambert, 2000).

In addition, Braganza and Lambert (2000) also claim that the business process, as a unit of analysis, is frequently neglected and overlooked because its activities often span functional and hierarchical boundaries (op cit., p180). Examining the behaviours of resource network evolution at the microstate level of the business process presents the opportunity to develop greater insight and understanding into the dynamics of continuous organisational transformation.

2.6 Addressing the Theoretical Deficiencies in COT

Since few studies exist which explore COT at levels of analysis smaller than a single organisation or a single department within a firm, theoretical explanation for continuous transformation at the microstate level – ***'microstate morphing'*** - remains theoretically underdeveloped.

The definition of the BPRN as the microstate morphing locus provides the start point to address the specific deficiencies identified in the extant COT literature. Specifically, there are five areas of deficient explanation identified from the Introduction as depicted in Figure 4 below:

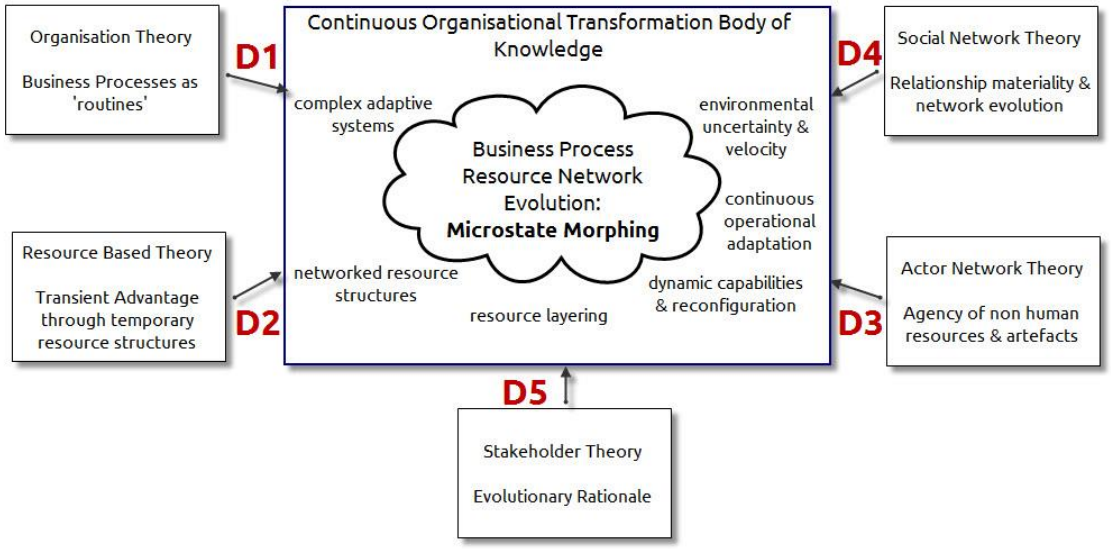


Figure 4: Deficiencies in COT Literature

The remainder of this section is structured to consider these deficiencies.

2.6.1 Deficiency 1 (D1): Organisation Theory doesn't describe the Business Process Resource Network, only the Business Process

In organisation theory, the literature on organisational routines helps us understand the practices that make up a business process. It highlights the importance of the ostensive and performative aspects of the 'routine' and the important role of artefacts (Feldman, 2000; Feldman and Pentland, 2003). But this body of work does not adequately explain the evolution of routines or the resource structures which comprise the process. The locus for this study is the resource network which comprises the business process – see Figure 5: The Conceptual Locus for this Study (below):

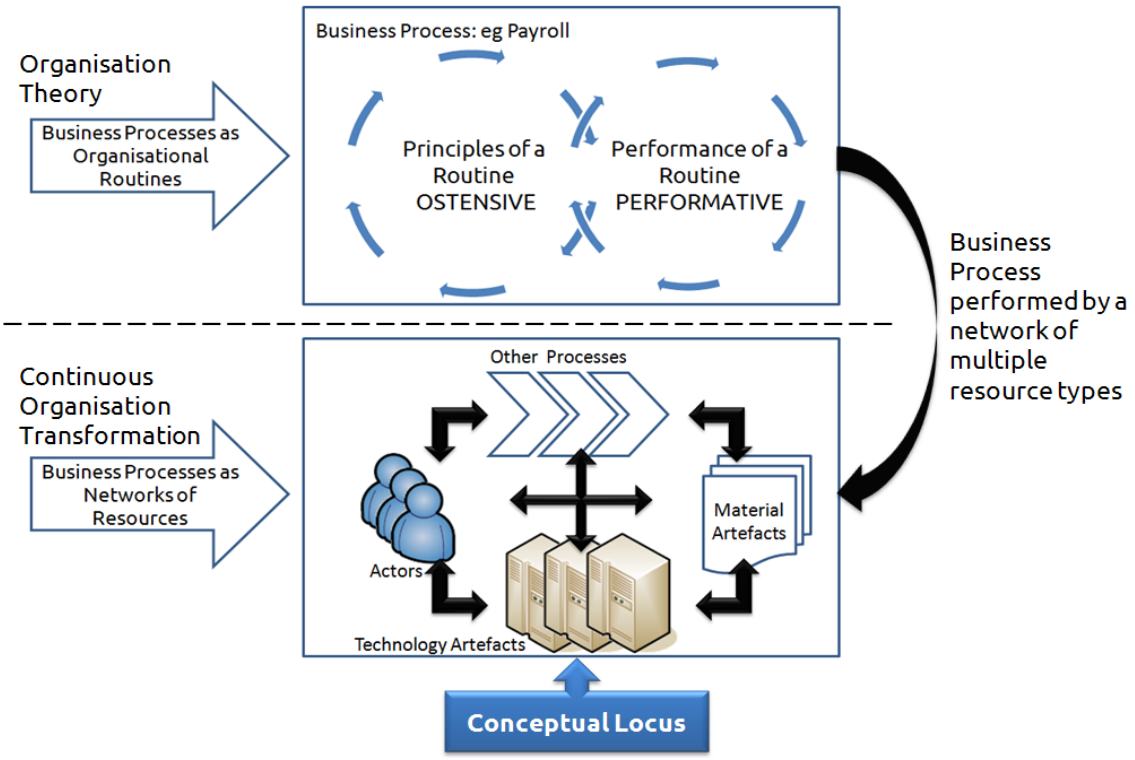


Figure 5: The Conceptual Locus for this Study

The literature describing business processes as units of analysis is found in the knowledge domain of 'routines' (Feldman and Pentland, 2003) in Organisation Theory (OT). Routines are described as "generative systems with internal structures and dynamics" (Pentland and Feldman, 2005: p793). Yet business processes are still typically examined from single perspectives – the social, or the material in the literature. Consequently, the business process as a unit of analysis is seen in terms of its performance of a routine, not in terms of the material components which constitute the process.

Whereas 'routines' are grounded in the organisational theories of sensemaking through performative action (Feldman and Pentland, 2003), such literature does not describe the specific resource structures which comprise the process. And even though the OT literature describes the 'ostensive' and 'performative' meaning of routines as they comprise a business process, the lack of examination of the resource network and its evolution in that business process

is why the underpinning body of organisation theory is inadequate to explain microstate morphing. Thus, it is to other theories and bodies of knowledge that we turn to help explain microstate morphing through business processes as networked resource structures. And it is to other theories we turn to bring in explanation of the networked resource structures, not just the social, or just the material, of business processes.

Only ANT has offered description of combining 'social' and 'material' as a way of understanding integrated resource structures, and thus a way of understanding the sociomateriality of business processes. One early definition in literature describing sociomateriality in business processes is defined by Braganza and Lambert (2000) as co-ordinated and integrated resource structures. Our current understanding of integrated resource structures has been limited because we have not (until more recently) recognised 'artefacts' or 'infrastructures' (Orlikowski, 2007).

2.6.2 Deficiency 2 (D2): COT doesn't offer a way of describing temporary resource structure evolution

The micro-foundations strategy literature describes adaptive systems and resource structures but does not adequately articulate how such structures evolve. Despite recent attempts to explore dynamic or combinative capability, or firm level morphing, this literature falls short in providing adequate description and explanation for the resources themselves and their inter-relationships (let alone the acknowledgement of other process-based agents or material artefacts acting in the process). Resource structures tend not to be discussed at any level other than "firm" or "department", and not at 'micro-levels'.

In Resource Based Theory (RBT) resource structures are created to create temporary structures which generate transient advantage. And yet for all the literature on dynamic or combinative capability, or firm level morphing, there remains a void in actual description for the resources themselves and their

inter-relationships (let alone the acknowledgement of other process-based agents or material artefacts acting in the process). Temporary resource structures are considered at the firm-level, and are described in terms of 'dynamic' rearrangements. But, the resource structures are not discussed at any level other than "firm" or "department", and not at 'micro-levels'.

McPherson, et al, (1992) suggest that changing resources within the resource network itself contributes to structural evolution. They assert that network composition changes over time under two conditions. One, change occurs where the predominant relationship types between network nodes are weak. Two, relationship connections which span more than the immediate network facilitate movement of resource between networks.

Movements and changes also apply to non-social elements of actor networks. Such movements and changes are exemplified when relationships to technological assets or other networks of specific resources are created. Changing the nature of resource connectivity through relationships, or changing the resource itself therefore changes the way in which the network of resources operates as a system - the 'durable whole' as described by Latour (2005).

The characteristics of network adaptability (exploiting connectedness, tie strength variability, and bridging) thus facilitate evolution of resource structures (Granovetter, 1982; Grandori and Soda, 1998; McPherson, et al, 1992). As a result, resource networks are able to acquire other resources and develop combined structures (McPherson, et al, 1992). In other words, these network characteristics enable adaptive capability because they support the development and transformation of resource configurations (Stacey, 1995).

COT literature doesn't describe resource network evolution. Networked arrangements of resources are described using principles established in ANT (Law, 1992; Latour, 2005) and SNT (Tichy, Tushman and Fombrun, 1979; McPherson, et al, 1992; Granovetter, 1982; Grandori and Soda, 1998).

2.6.3 Deficiency 3 (D3): COT doesn't describe Resources

COT literature draws its definitions of resources from RBT. In particular, COT draws on the premise that an organisation will continually redefine its form and function to develop advantage in the market place. Transient capability advantage stems from the resource the ability to configure and exploit available resource structures (Barney, 1991; 2001; Teece, Pisano and Shuen, 1997; Eisenhardt and Martin, 2000; Rindova and Kotha, 2001). Yet COT lacks the description for 'resources' except to offer case examples of resources such as personnel or technologies.

In particular, COT draws on the premise that an organisation will continually redefine its form and function to develop advantage in the market place. Transient capability advantage stems from the resource the ability to configure and exploit available resource structures (Barney, 1991; 2001; Teece, Pisano and Shuen, 1997; Eisenhardt and Martin, 2000; Rindova and Kotha, 2001). Yet COT lacks the description for 'resources' except to offer case examples of resources such as 'personnel' or 'technologies' as labels for organisational assets.

The body of knowledge which recognises resource structures other than 'human' as capable of having relationships and information exchanges is found within ANT. ANT's description of 'resources' acknowledges the multiple types of actor present in resource structures, and accredits agency to material actors. Moreover, ANT also allows us to view resources in terms of their scale – from a single artefact or individual person, to societal phenomena such as 'the carbon agenda'. Any actor – be it the single or societal – is acknowledged as having an inter-active capability within a networked resource configuration. ANT also enables us to explain transformation using multiple types of resource, whilst recognising the scale of resource.

In fact, this recognition of scale of resource is commented on by Bhaskar, Fank, Høyer, Næss and Parker (2010). They identify the construct of a 'planar being' as having seven levels of scalability – from the individual through to the societal in terms of scale. This construct - known as a 'laminated system' (Bhaskar, 2006) - is discussed in greater depth in the next chapter.

2.6.4 Deficiency 4 (D4): COT doesn't describe Resource Relationships

The theoretical problem continuous transformation poses is how resource relationships are described and measured, what the evolution of these patterns looks like, and ultimately for whom these configurations are derived. The deficiency exposed in the COT literature is lack of explanation of the "dynamics" of 'dynamic reconfiguration' in resource arrangements through resource relationships.

COT literature examines relationships only to the extent that agent behaviour is influenced by adjacent actors. There is no recognition of network behaviours, or resource network interconnectivity.

The theoretical problem continuous transformation poses is how resource relationships are described and measured, what the evolution of these patterns looks like, and ultimately for whom these configurations are derived. The complex adaptive systems view recognises an organisation's resources as dynamic arrangements of elements or agents which act and react with their environment as well as themselves (Waldrop, 1994; Holland, 1995).

Depending on the granularity of inspection, these dynamic arrangements can be seen at whole system or sub-system level (Marshak, 2004). Dynamic arrangements are denoted by Marshak (2004) as continuous systemic alignment and continuous operational adaptation respectively. The deficiency exposed in the COT literature is lack of explanation of the "dynamics" of 'dynamic reconfiguration' in resource arrangements.

Resource arrangements – human ones at least - are found in the SNT. Although SNT only offers agency for humans or groups of humans, the principles of connectivity are well established. SNT's strength is its description of relationships between agents. Using the relationship connectivity types identified by Grandori and Soda (1998) we can describe the importance of the relationships between agents using timeliness of exchange and information exchange importance as measures of relationship strength.

Grandori and Soda (1998) identify a typology of resource relationships which reflect the importance of time sensitivity and information criticality. This may be found in Typology for Describing Resource Relationships in Appendix 2 on page 306.

COT literature examines relationships only to the extent that agent behaviour is influenced by adjacent actors. There is no recognition of network behaviours, or resource network interconnectivity. Grandori and Soda's (1998) relationship typology enables more accurate description of relationships between resources such that it is possible to identify those relationships which have more importance than others. In Orlikowski's (2007) study, 'sociomateriality' between agents, artefacts and infrastructures for a series of organisational activities is identified. But the study struggles to account for the actual "network" of the resources, or their interconnectivity in performing a process.

2.6.5 Deficiency 5 (D5): COT doesn't explain any Rationale for Evolution

COT examines evolution through the behaviour of complex adaptive systems (Stacey, 2007). Adaptive systems develop contextual connectedness which facilitates interaction with environmental stimuli (Anderson, 1999; Holland, 1995). Yet there is limited description for how this 'connectedness' develops. In turbulent environments, anticipatory functions are critical in detecting and informing the need to change if any transient advantage is to be delivered from

the organisation's resource base. The continuous reconfiguration of the resource base is referred to as "morphing" (Rindova & Kotha, 2001). Rindova and Kotha (2001) suggest that morphing requires a shift from control over resources through structure and process towards opportunistic evolution and experimentation.

Two implications arise from this concept of morphing. Firstly, detection of requirement to change is possible even if a target model for new resource patterns isn't clear or defined. Only time will tell if the results of changing may be determined as effective or satisfactory through the generation of advantage. This implies a condition of 'purpose' in evolution as opposed to reconfiguration for reconfiguration's sake which may not result in transient advantage.

Secondly, purposeful evolution implies that the rationale for evolving is driven by a requirement to deliver a performance outcome. The judgement on this success of outcome then rests upon the determination of the beneficiary within the organisation for whom the reconfiguration occurs.

Distinguishing the generative forces driving evolution help differentiate the forms of adaptive system. 'Self-organising' systems (Capra, 1996; Wheatley, 1994) are excluded at this point because response and reconfiguration may occur without any development of advantage at all.

Whilst this literature acknowledges purposeful and serendipitous evolution, it fails to identify what mechanisms actually intervene at BPRN level to influence resource configuration. Resource configuration – that is the availability and placement of resources – is influenced by stakeholders (Freeman, 1984; Frooman, 1999). So Stakeholder Theory (ST) is drawn upon to provide a platform to argue 'intent' in resource network transformation.

The notion of 'intent' provides an important distinction in evolutionary terms (Stacey, 1995; 2000). Intent embodies the concept of purpose – and purpose is determined by stakeholders. Stakeholders can be anyone who affects or

influences the achievement of organisational objectives (Braganza and Lambert, 2000). Thus 'intentional evolution' differentiates self-organising systems from others (Wheatley, 1994; Capra, 1996).

Organising and adjusting resources occurs through the intervention of stakeholders – those with an interest or control over placement and availability of resources (Freeman, 1984; Rowley, 1997; Frooman, 1999). Stakeholders are critical in withholding or providing access to resources (Pfeffer and Salancik, 1978). Implicit and explicit relationships between stakeholders also govern resource positioning and availability (Hill and Jones, 1992). Deliberately organised resources through stakeholder intervention determine resource configurations. Thus stakeholders' interventions influence timely resource network transformation and the generation of outcomes (Frooman, 1999).

Objectives are operationalised through business processes to create outcomes that are of value to stakeholders (Braganza and Lambert, 2000). Creating stakeholder value through business processes requires resource allocation (Pfeffer and Salancik, 1978; Freeman, 1984; Frooman, 1999). However, where stakeholders' interests conflict, engagement of resources is subject to stakeholders' positions of influence (Freeman, 1984; Frooman, 1999; Mitchell, Agle and Wood, 1997). As a result, evolution of resource configurations may intentionally occur yet lack focus on generating advantage.

Mitchell, Agle and Wood (1997) identify the 'definitive stakeholder' as one who claims 'direct', 'urgent' and 'necessary' action over resources to affect outcomes (Mitchell, Agle and Wood, 1997: p878). However, this definition of stakeholder does not differentiate between internal or external stakeholders. This differentiation between the internal versus the external provides a means to identify specific stakeholders within the organisation. Internal definitive stakeholders will intervene through specific actions relating to specific resources to affect outcomes. Thus the evolution of the BPRN's composition and its inter-relationships be related to the intentions of specifically identifiable stakeholders.

Internal definitive stakeholders directly experience timely resource performance. Intervention to adjust resource configurations occurs where outcomes and expectations are misaligned. Direct, urgent and necessary intervention to reconfigure a resource network indicates speed of response. One implicit assumption in this rationale for intervention is that timely provision of data is available for the internal definitive stakeholder to evaluate the outcomes of BPRN operation against expectations. Such feedback informs the need for resource network reconfiguration. The sooner the detection of misalignment, the sooner the direct, urgent and necessary stakeholder intervention can occur.

COT literature only goes so far as to identify that delays in detecting misalignment and delays in resource reconfiguration activity result in curtailment of value creation. Without continuous evaluation of resource network performance against expectations, and the subsequent interventions to ensure continuous evolution to generate advantage, transformation activity follows a punctuated or intermittent change pattern (Brown and Eisenhardt, 1997; Stacey, 2000).

Although creating temporary competitive advantage by manipulating and exploiting the resources available is intentional (Barney, 1991; Teece, Pisano et al, 1997; Eisenhardt and Martin, 2000), resource patterns which emerge either from intention or self-organisation may not necessarily deliver advantages (Walrop, 1994). It is only through operation that the BPRN performance outcomes are known, and only then the need for intervention may be determined.

2.7 Summarising the Deficiencies in COT Literature

The COT literature itself is theoretically deficient in offering explanation for continuous morphing. Moreover, the Teece (2007) model for dynamic reconfiguration offers only limited explanation in its logic, with no recognition of the ‘microstate’, and no demonstrable linkage between previous and current

states and the rationale for evolution. No single body of knowledge offers explanation for morphing at the microstate level of analysis.

Thus the primary deficiencies identified are five-fold:

a) The lack of explanation for a Business Process Resource Network (D1);
b) The lack of explanation for the mechanism(s) of resource structure evolution (D2);
c) The lack of explanation for 'resources' themselves (D3);
d) The lack of explanation for 'resource relationships (D4); and
e) The lack of explanation for the rationale of resource structure evolution (D5).

In addition, the deficiencies of Teece's (2007) model compound this theoretical gap (see discussion earlier in section 2.3.1 Theoretical Deficiencies in Dynamic Resource Reconfiguration Logic on page 41). Specifically, there are four shortcomings identified:

a) The focus of the model at 'firm level' without consideration of the 'microstate' (S1);
b) The lack of explanation for the impact of 'time' in the logic chain, and its effect on dynamic resource reconfiguration (S2);
c) The lack of explanation for the impact of the recipients of 'firm performance or competitive advantage' (S3);
d) The focus on strategies for dynamic reconfiguration, rather than explanation for the mechanisms of such dynamic reconfiguration (S4).

The evidence from the literature explains that dynamic behaviour of resource networks leads to the development of structural alternatives (Stacey, 2000). Resource networks may comprise many different resource types and may exhibit temporary yet coherent structures which grow, split, or recombine as they continuously transform (Callon and Law, 1989; Holland, 1995; Stacey, 1995, 2000). Where internal definitive stakeholders' expectations continue to

be met through existing resource network performance, evolutionary activity through intervention is not required (Mitchell, Agle and Wood, 1997; Braganza and Lambert, 2000).

Resource network evolution as discussed above is circumscribed by three enduring, simultaneous conditions. Transforming from one configuration to the next, an organisation is reconciling the presence of uncertainties in the environment, with the constraints of resource network structures, with the intentional requirement by internal definitive stakeholders to create advantage, all at the same time. Continuously morphing the network arrangement of resources does not resolve the enduring tri-partite constraints. Resource network configurations remain in situ until intervention occurs – and intervention occurs when outcome and intent are misaligned.

And yet no one single theory is sufficient to describe the continuous transformation of resource networks. Consequently, this research draws upon core concepts drawn from four theoretical perspectives: Resource Based Theory, Social and Actor Network Theory, and Stakeholder Theory. The RBT lens has been adopted because resource configurations generate advantage through dynamic capabilities (Teece, Pisano et al, 1997; Eisenhardt and Martin, 2000). RBT also explains longevity of resource patterns because transient advantage is eroded in competitive environments (Barney, 1991; Helfat and Peteraf, 2003). In the background, we have the informing literatures on environmental uncertainty and velocity (Emery and Trist, 1965; McCarthy et al, 2010).

The principles established in SNT and ANT provide the means to describe multiple resource types and relationships within networks. The constructs from SNT are employed to describe relationships, and the recognition of 'beyond human' actors from ANT to encompass all resources possessing capability (or relational capability). The term 'sociomateriality' (Orlikowski, 2010) is employed to describe this dynamic mix of actors and their interrelatedness.

Finally, ST addresses the issue of 'intent' in continuous transformation (Hill and Jones, 1992; Frooman, 1999). ST identifies definitive stakeholders whose expectations require satisfaction (Mitchell, Agle et al, 1997). This definition is extended to identify the specific internal definitive stakeholder who directly, urgently, and necessarily governs resource network evolution through intervention. Where dissatisfaction occurs, ST provides a platform from which to argue the rationale behind reconfiguration activity. In essence, ST provides the theoretical premise to explain purposeful intervention to ensure reconciliation of outcomes and expectations.

2.8 The Research Question

Thus in order to gain greater understanding of continuous organisational transformation at the microstate level, the research question posed is:

How do BPRN morph over time?

To answer this question, and following MacKenzie's process-led approach, additional questions are needed to support the answer to the question. Specifically, these questions are:

- What are the resources involved in performing the business process?
- How are these resources identified and described?
- What relationships exist between the resources in this network?
- How is this resource network changing and why?
- What method can be used to explore this phenomenon?

2.9 Chapter Summary

In this chapter, the COT literature was reviewed. How scholars have come to think about COT was examined, and how the concept of 'morphing' has emerged as a new way of thinking about COT was noted. Specifically, the

issues of organisational environment and resource reconfiguration were discussed.

Theoretical deficiencies were described in detail, and the underpinning bodies of knowledge were discussed for their relevance, and for their contribution to understanding COT. The theoretical principles identified from each body of knowledge were presented as a theoretical start-point to inform the research method. Finally, the research question was posed.

In the next chapter, the methodology developed and employed to study one example of BPRN transformation is described. The method acknowledges the multi-theoretical perspectives necessary to examine BPRN in its context, and recognises the multiple levels of analysis through which transformation activity is evidenced.

The method was devised to recognise multiple agents and artefacts, and to recognise multiple types of relationship between those agents and artefacts. This was developed using principles drawn from the literature that discuss social and actor network evolution (Latour, 2005; Orlikowski, 2007).

The method uses the principles of causal mapping (Snook, 2000) to develop a timeline of evolutionary activity which acknowledges multiple levels of activity over time for a single BPRN in a single organisation. The approach draws extensively on the concept of a ‘laminated system’ (Bhaskar, 2006) as a way of understanding complex multi-level phenomena.

3 METHODOLOGY

This chapter describes the methodology employed to discover how BPRN morph over time. The philosophical standpoint from which the phenomenon is viewed is discussed, then the approach used to examine BPRN transformation is identified. Next, the importance of multiple perspectives is documented to explain the phenomenon and the case study is presented. Finally the data gathering method and the preparation of findings is described.

Figure 6: Entire Research Methodology illustrates this methodology in its entirety, showing the relationship between the previous chapter on literature (see Chapter 2 on page 30), and the subsequent chapters detailing the findings (see Chapter 4 on page 122) and discussion (see Chapter 5 on page 204):

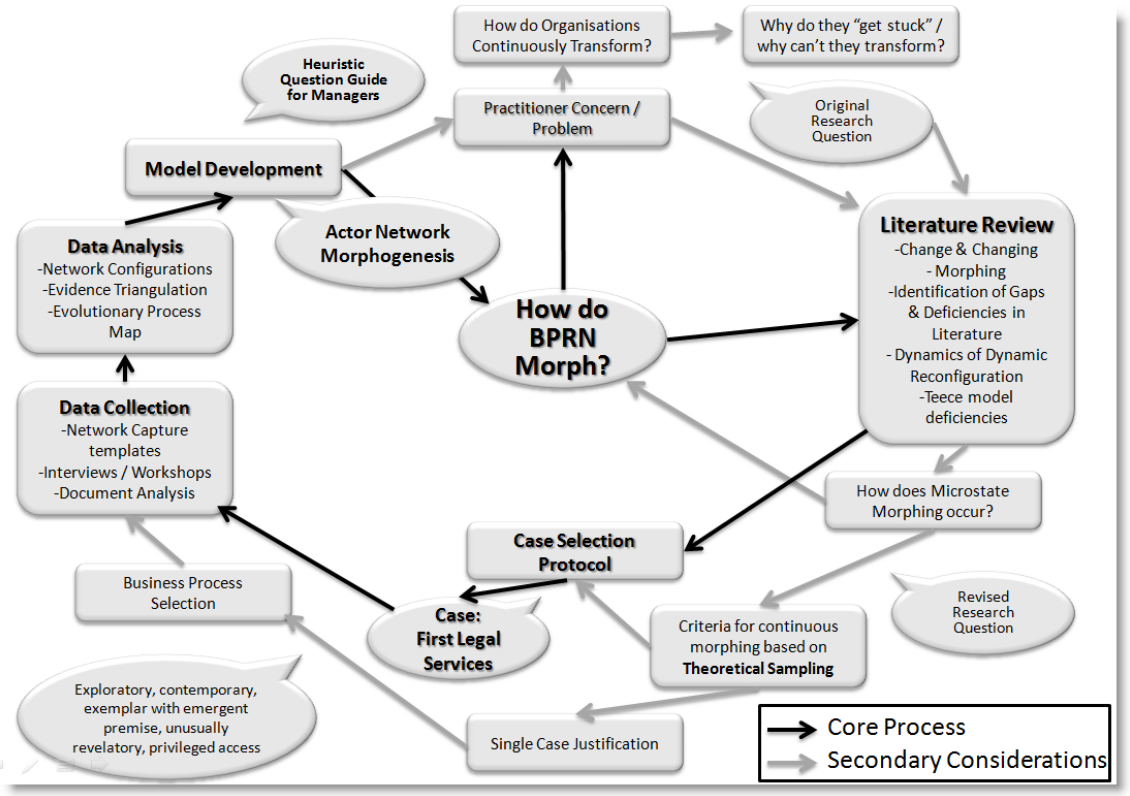


Figure 6: Entire Research Methodology

3.1 Underlying Research Philosophy: Critical Realism

Critical realism provides an ontological and epistemological philosophy in which to situate explanations for phenomena which cannot be explained by pure idealism or pure empiricism alone (Bhaskar, 1978; 1979; 1989). The philosophy enables researchers to explain phenomena that occur without the phenomena being directly observed by uncovering the underlying 'generative mechanisms' (Bhaskar, 1979: p170). Bhaskar (1978) describes critical realism as biased toward fact-finding processes and scientific method for uncovering explanations that take into account the contextual factors inherent in social systems (Bhaskar, 1989; Roth and Mehta, 2002; Donaldson, 2005).

Bhaskar (1994) summarises the components of a critical realist driven approach to understanding generative mechanisms in Table 3: Critical Realism and the Philosophical Approach to Understanding Generative Mechanisms (Bhaskar 1994: p23) shown below:

Phase Name	Approach Description
Resolution	Resolving an event or phenomenon to be explained into its component parts and their relations.
Re-description	Re-describing the phenomena in a way that makes it theoretically significant: relevant to the concepts or issues of particular theories.
Retroduction	Putting forward a hypothetical mechanism or structure that, if such a mechanism or structure existed, would generate the observed phenomenon. The structure could be physical, social or psychological and may not be directly observable except in terms of its effects.
Elimination	Eliminating alternative explanations and attempts to demonstrate the existence of the mechanism by experimental activity or by the prediction of other phenomena or events.
Identification	Identification of the correct generative mechanism from those considered, and appropriate development to the theoretical base.

Table 3: Critical Realism and the Philosophical Approach to Understanding Generative Mechanisms (Bhaskar 1994: p23)

This philosophical approach to generative mechanisms provides the research framework used in this study.

Bhaskar, Høyer, Næss and Parker (2010) offer the construct of a 'laminated system' as a way of understanding mechanisms operating at different levels of being. Specifically, an 'articulated laminated system' is a description of the indispensable units for understanding complex, multi-level phenomena. Bhaskar, et al (2010) identify seven potential 'levels of operation' at which underlying mechanisms may operate. Specifically, these are:

i. the sub-individual psychological level (for example: the intention of an individual)
ii. the individual or biographical level (for example: actions of single actor)
iii. the micro-level studied (for example: actions of an actor group)

iv. the meso-level (for example: the relations between functional roles such as capitalist and worker or MP or citizen)
v. the macro-level (for example: understanding of the functioning of whole societies or their regions)
vi. the mega- level of the analysis of whole traditions and civilisations,
vii. the planetary (or cosmological) level concerned with the planet (or cosmos) as a whole

Whilst these levels of construct refer typically to 'social' constructs, by extension they can be applied to any actor (not just 'social' ones).

To better understand laminated systems, Bhaskar, et al (2010) argue that an epistemic and integrative framework is needed to sustain different perspectives and practices of different research disciplines. He argues that such an integrative framework needs to be multi-disciplined as well as inter-disciplined. This is because to view research subjects through only one lens is limiting understanding only to that lens. Furthermore, such a framework also needs to be trans-disciplined to identify new or novel material.

Bhaskar (1978) suggests that research processes which focus on the 'observable' – that is, the 'empirical' - cannot alone explain the operation of phenomena in context unless the mechanisms which cause the observed phenomena are identified. He argues that observable data are generated by actual events, but what causes the 'actual' is the 'real' cause for what has been observed. Consequently, to note what is observed is only part of the research process. To understand phenomena, the underlying reality needs to be identified. This is the premise for Bhaskar's 'generative mechanisms': the causal or 'real' which generates 'actual events' which present as empirical evidence.

Rousseau and House (1994) also suggest an integrative approach to understanding research. They suggest that purely micro or purely macro

approaches limit research outcomes to individually focused levels of analysis rather than appreciate the true context of the research. Rousseau and House (1994) describe 'true context' as "a simultaneous consideration of main and interaction effects at several levels" (op cit: p15).

Whilst this research uses a defined unit of analysis situated at the microstate level – the BPRN – Rousseau and House (1994) argue that a more integrative way of seeing events, activities and entities across an organisation creates more realistic research outcomes.

Moreover, Rousseau and House (1994) argue that by *not* adopting a multi-level approach, findings from traditionally focussed research targets are over-generalised, are ignorant of cross-level effects, and have limited ability to acknowledge the emergence of new organisational forms. They conclude that a multi-level-research approach is necessary to investigate the complexities of organisations that are both concrete and abstract, and activity-based.

By adopting this laminated system approach, this research considers study beyond typical analysis targets such as individuals, groups, or firms. Thus the decision was made to explore BPRN morphing by finding a research strategy which acknowledged the potential for multi-level mechanisms to exist.

According to Mingers (2006), there has been little written direct critique of critical realism, especially within the philosophical literature. If anything, researchers in the social sciences have received critical realism in a positive rather than negative way (Mingers, 2006). The choice of critical realism represents a philosophical position which acknowledges the importance of the context (the subjective), as well as the material facts of phenomena under investigation (the objective) (Bhaskar, 1994; Roth and Mehta, 2002). It also recognises that reality and knowledge of that reality are constrained by time.

3.2 Identifying the Research Strategy

The research aim of this study is to examine the BPRN and its transformation across several perspectives. The research challenge is then one of 'operationalisation'.

The principles established by Rousseau and House (1994) Bhaskar (1994), and Bhaskar et al (2010) are drawn upon to provide a premise for an integrative approach which acknowledges the same phenomena operating at different levels within the organisation.

As Langley (1999) notes, process research concerns how things evolve over time and why – and evolution is a matter of what events and activities take place over time. Except that events and activities taking place over time are fluid in nature and are contextually driven (Pettigrew, 1992; Yin, 1994). Consequently, understanding what is going on frequently involves recognising multiple levels of analysis.

Again, Langley (1999) notes that complex phenomena are understood in terms of 'events', 'levels of analysis', 'temporal embedding' and their 'eclectic' nature. Different levels of events such as background trends are viewed differently than a specific instance of a relationship change for example. Both are 'events' yet their timing and duration are completely variable. This strategy of viewing the timescale to show data evolution over periods of time is termed 'temporal bracketing' (Langley, 1999: p703).

Finally, Langley (1999) notes that the eclectic nature of organisational events is reflected in the eclectic nature of the data gathered. As Langley (1999) also notes, it is to other theories - such as complexity theory (Stacey, 1995) – that scholars are turning to embrace multi-layered events and the changing circumstances in which organisations operate. Yet complexity theory tends to resort to modelling techniques rather than exploring multi-layered events empirically.

Langley (1999) suggests that certain strategies for analysing process data are available to the researcher. Many of these 'follow on' from others – temporal bracketing for example is informed by both narrative and visual mapping. Narrative and visual mapping strategies are informed by grounded theory ('data driven') and alternate templates ('theory driven') approaches. In this exploratory case, the theoretical deficiencies which emerged from literature (discussed in Chapter 2) are addressed by using both data and theory as informants.

Following Langley's (1999) advice, the decision was taken to pursue a combination of three research strategies – 'temporal bracketing', 'narrative' and 'visual mapping'.

The temporal bracketing strategy is one which permitted the researcher to present what Langley (1999) refers to as 'the shapeless mass of process data' over time. Structuring data in this way allowed apparently disconnected events to be placed within context. The strength of the temporal bracketing strategy is that it supports the simplicity of depicting events over time. And the advantage this approach brought was the likelihood of identifying process drivers and generative mechanisms present in the time period.

The narrative strategy is one which involves constructing a story from raw data (Langley, 1999). This is most often viewed as the preliminary step to support later analysis. Pettigrew (1992) argues that this preliminary step has a more important role because it clarifies sequences of events across multiple levels of analysis. The narrative strategy also supports a greater understanding of context and the establishment of analytical themes.

The narrative strategy's strength lies in its ability to accommodate the vagaries of time and duration, as well as richness of the organisational context and events occurring at multiple levels of analysis. Langley (1999) suggests that narrative-based research outcomes have a high degree of accuracy to help make sense of mechanisms, especially when targeted on single cases.

The visual mapping strategy is one which involves constructing graphical representation to allow simultaneous presentation of multiple items at multiple levels over a time frame. Visual mapping is frequently used to establish causal maps to support theoretical explanation (Miles and Huberman, 1994). Causal mapping is one of the only strategies which enables researchers to present sequences of events which occur over a time period, even though they occur at different levels of analysis. The strategy was further developed by Snook (2000) who extended the levels of analysis to consider the external environment. In doing so, external events or entities are considered part of the articulated laminated system (Bhaskar, et al, 2010).

The strength of the causal mapping approach is that deals well with 'time' and 'relationships' between events over time (Langley, 1999). However, Langley (1999) argues that at least five cases are needed if any patterns of behaviour or mechanisms are to be relied upon for theoretical development. Consequently, Langley (1999) views this approach as being only moderate in accuracy.

The decision to use Snook's (2000) approach was taken to provide a framework against which the transformation events occur could be mapped. At this point it was not known whether specific causal relationships would emerge from the data. Consequently, it is the *principles* of causal mapping which are employed to illustrate the multi-layer analysis.

Furthermore, it is the '*conjunctive'* as opposed to the specific dyadic, triadic or even quadratic relationships between multiple layers which are illustrated. The combination of 'several causes' versus a single event trigger (which may not even be evident) permits the understanding of how events combine rather than compete when an outcome is identified (Mills, Eurepos and Wiebe, 2010). Consequently, the causal mapping approach provides the best framework for understanding such multi-level events.

Despite the potential weakness of using a single case, the benefit of using the 'narrative' in combination with 'causal mapping' is that making sense of data and events is contextualised. Accuracy is improved as a result.

This study examined the use of different analytical methods including soft systems methodology (Checkland and Scholes, 2001; Wilson and Haperen, 2015). This method was excluded because the focus of soft systems is to enable structured debate in 'activity systems'. Typically a seven-step approach is employed to determine the nature of a problem situation, and the potential desirable outcomes required.

Despite the potential applicability of using such constructs as 'customers', 'actors', transformational process, the 'world view', the 'owner' or 'environmental constraints', the focus for the use of these is on a future business outcome, which is not the focus of this study. The focus of this study is to identify how a BPRN morphs over time. Consequently, the use of soft systems methodologies was excluded.

The methodology of 'storyboarding' (see for example: Larkin, 1996; Bird, 2007), was also excluded. 'Storyboarding' presents advantages over simple narrative data capture in that it typically assembles images and narrative data. It can also act as a visual description for a 'story', highlighting recurrent issues or relationships among data points.

However, 'storyboarding' has its limitations. Specifically, any data that doesn't 'fit' can be discarded by the 'story teller'; and having a wider story-circle audience will entail potential 'dilution' of interpretation and a loss of meaning. Its biggest limitation is that it does not present a final outcome – it is means of data collection only.

As a result, storyboarding was also discounted as a method to capture the evolution of the BPRN as it failed to appreciate the multiple levels of analysis foreseen.

In summary, the philosophical argument presented by Rousseau and House (1994) and Bhaskar et al (2010) is that organisational research should be multi-level and that only by adopting integrative approaches can research outcomes be more accurate, more targeted to avoid over-generalisation, and more holistic by recognising cross-level effects. Consequently, the decision was taken to adopt the research strategies identified by Langley (1999). Specifically, the decision to use Snook's (2000) approach of causal mapping which exploits temporal bracketing encompassing both the narrative and visual strategies identified by Langley (1999) was taken.

3.3 Research Methodology

Bhaskar (2008) argues that "the real basis of causal laws are provided by the generative mechanisms of nature. Such generative mechanisms are …nothing other than *the ways of acting of things* [author's emphasis]. And causal laws must be analysed as their tendencies" (Bhaskar, 2008: p3). To explore how BPRNs morph, it is the 'ways of acting of things' which require study. The acting of things thus requires further definition. In line with MacKenzie's (1986) process law, it is the BPRN components, their relationships, and the way they act over time which needs capturing.

Bhaskar (2008) argues that the 'ways of acting of things' fall into three specific domains of knowledge: that which is 'real', that which is 'actual', and that which is 'empirical'. In summary, that which is 'real' is independent of individual perception or society. That which is 'actual' refers to events that take place. That which is 'empirical' refers to what is observed. Bhaskar (2008) argues that these three domains can overlap, and that it is only by understanding all three domains that explanation emerges.

Consequently, the BPRN behaviour is examined by defining the specific events which take place within the network itself. How these events occur, and how they are experienced or presented within the organisation is examined to provide greater insight. Ultimately, the ways of acting of things are explainable either through evidence and experience, or there is some other mechanism at work.

3.3.1 Enacting the Research: The Exploratory Case Study

Following Langley's (1999) advice, and using the combination of three research strategies – 'temportal bracketing', 'narrative' and 'visual mapping' – a single organisation was targeted for research. In order to research how BPRN's morph, the research method of an exploratory case was used (Yin, 1994). Exploratory cases are viewed as 'theory seeking' rather than 'theory testing' (Yin, 1994). Furthermore, the decision to use temporal bracketing, narrative and visual mapping (Langley, 1999) as the combined research approach aligns with the principles of 'theory seeking' (Yin, 1994).

Exploratory cases are one of the most effective research strategies used to uncover specifically occurring phenomena in defined settings (Eisenhardt, 1989; Blaikie, 1993; Easterby-Smith, Thorpe et al, 1997; Yin, 1994). Yin (1994; 2003) argues that the case study is an ideal research strategy when the boundaries between phenomena and context are not clear. Specific cases are also ideal when the research focus is to explore, describe or explain contemporary phenomena which occur in a real-life context (Yin, 2003).

Building theory from cases allows researchers to understand the dynamics present within single setting (Eisenhardt, 1989). As a result, cases have become research vehicles for facilitating theoretical and contextual differentiation (Eisenhardt, 1989). Eisenhardt (1989) also argues that case study approaches provide strengths unavailable through alternative research strategies.

Firstly, unique cases often provide paradoxical and contradictory evidence against literature and what is considered 'known'. The contra-positions of literature, evidence gathered and previous knowledge often generate creative insight. This is how 'novelty' is derived from cases (Eisenhardt, 1989: p546).

And secondly, cases provide testing ground for emergent theory. But as an exploratory case, this forms the emergent premise for future research. Thirdly, the nature of case studies provides a fundamental link between data and evidence. Resultant theory is therefore empirically consistent with observation (Eisenhardt, 1989: p547), and the choice of the research strategy aligns with the research philosophy, avoiding the mismatch of 'method' with 'approach' (Johnson, Buehring, Cassell and Simon, 2006).

Since there are few, if any, definitive examples in the literature of morphing organisations, let alone micro-state morphing in BPRNs, theoretical sampling is appropriate (Glaser and Strauss, 1967). According to Yin (1994), theoretical sampling of single cases is straightforward: cases are chosen because they are unusually revelatory, extreme exemplars or represent unusual research access.

Scholars have used single exploratory cases to bring to light less well researched subjects, or to demonstrate the effects of certain phenomena. Table 4: Exploratory Case Exemplars shown below identifies two exemplars drawn from the literature on emergent network forms:

Authors	Research Focus	Organisation Context
Hutt, Reingen and Ronchetto (1988)	Social networks and structural emergence in networks	Knowledge dissemination in new product development
Buckles and Ronchetto (1996)	Network linkage in industrial purchasing processes	Industrial buyers and organisational workflow

Table 4: Exploratory Case Exemplars

These exemplars offer insight into the emergence of buyer-network structures and organisational workflows, and into the business process of 'new product

development' and how social networks evolve as part of that business process. Yet the transformation of BPRNs remains underdeveloped with no new studies noted beyond these exemplars.

Consequently, theoretical sampling provides a means to identify a target for research that is more likely to highlight the patterns, concepts, categories, properties, and dimensions of morphing being investigated (Glaser and Strauss, 1967; Strauss and Corbin, 1998). Furthermore, Glaser and Strauss (1967) and Strauss and Corbin (1998) suggest that theoretical sampling targets the most knowledgeable participants, increasing the quality of data gathered. In particular, Strauss and Corbin (1998) argue that quality data provide a clearer picture for models to be developed and then tested using other methods. To begin the process of developing a clearer picture, sampling criteria to select the target organisation were defined.

Theoretical sampling criteria were based upon the characteristics of the organisation and its environment. The satisfaction of the theoretical criteria determined the qualification of the target organisation as a valid research target. By using selection criteria, future research target selection may be replicated, as per Yin's (1994) and Langley's (1999) recommendations for greater numbers of cases to demonstrate robustness of reliability and validity (Yin, 1994).

3.3.2 Defining the Sampling Criteria and Research Target Organisation Entry Qualification

Four theoretical sampling criteria were identified from the literature reviewed in Chapter 2. These four criteria are:

- ***Market Context***, identified to reflect environmental turbulence, velocity and hyper competition as factors affecting continuous organisational transformation (Rindova and Kotha, 2001);

- ***Adaptive Capability***, identified from the concept of dynamic reconfiguration as the key to continuous evolution of resource structures (Eisenhardt and Martin, 2000; Teece, 2007);
- ***Resource Set***, identified to reflect the resources engaged in a specific BPRN to reflect the microstate level of analysis (Marshak, 2004; McKelvey 1999); and
- ***Stakeholder Set***, identified to reflect the stakeholder group since the rationale for evolution arguably emanates from stakeholders in the firm (Mitchell, Agle and Wood, 1997).

Characteristics for each criteria were defined from the literature. Those characteristics were compiled to form a selection protocol for identifying target organisations in which BPRN were changing. These criteria and their associated characteristics are shown in Table 5: Research Target Sampling Criteria:

Criteria	**Theoretical Factors identified from Literature**	**Selection Determinants**
Market Context	Does the organisation exist in a complex, inter-related context in its competitive domain? Is the organisation related to or dependent upon other organisations through defined relationships? Do circumstances in the organisations' operating environment change frequently which require rapid responses or changes in form & function?	At least 3 relationships exist with other entities within the market context; Explicit identification of change trigger types and sources inc. frequency of occurrence; Change triggers can be directly related to internal reconfigurations of resource sets and /or relationships Change triggers generate alternative relationships which may include external entities/resources

Adaptive Capability	Does the organisation deliberately scan its environment in order to detect changes to which it needs to react? What mechanisms are in place to do this? Are they linked to performance management information systems? Are there deliberate feedback mechanisms in place which indicate that change is required? Is "change" a result of key stakeholders' dissatisfaction in performance? Are resource sets reformed/reconfigured to deliver alternative performances based on stakeholder requirements ? Can the organisation change its form & function to meet the perceived requirement?	Environmental scanning is carried out by a defined function; Explicit/defined link to performance management information systems; Explicit/defined link to key stakeholders; Explicit/defined link to identified changes made to form/function
Resources	Is it possible to identify a specific set or group of resources which is changing or has changed? Is the resource set part of an inter-related system within the organisation? Can the resource set relationships be explicitly defined through relationship connectivity, strength of dependency? Is the performance of the resource set captured and tracked over time? Are there defined performance criteria for the resource set which are captured, tracked and monitored over significant time periods which inform decision making by stakeholders?	Explicit resource sets defined inc. their relationships; Resource set performance is captured and reported in a consistent method over at least 9 months Note: 9 months is used a minimal qualifier to establish frequency of consistent reporting (9 months is typical of a 3 reported quarters of organisation performance)
Stakeholders	Is it possible to identify a specific stakeholder set whose satisfaction depends on the resource performance over time? - is there a specific group of stakeholders which	Explicit stakeholder set defined; Managerial accountability & decision making is inherent

	can be defined which possesses the managerial accountability for performance of resource sets identified above? - do the stakeholders influence/determine the resource reconfiguration requirements based on performance information of resource set in relation to expectation? - do the stakeholders influence/determined resource reconfiguration based on environmental scanning ?	in role(s); stakeholders influence/ determine resource relationships & reconfiguration requirements

Table 5: Research Target Sampling Criteria

The above criteria identified in Table 5: Research Target Sampling Criteria may be used to select target organisations across any industry sector. Future studies are therefore possible as cross-industry comparisons can be drawn from multiple types of organisation.

The decision to draw upon a specific organisation – First Legal Services - was taken on the basis that extraordinary access was offered to the researcher as a result of a client consulting engagement. Upon referring to the literature, it was found that few studies of organisational change have been undertaken in the legal field – a brief summary of those found is shown below in Table 6: Literature Scan – Research in Legal Firms:

Authors	**Research Focus**
Cooper, Hinings, Greenwood, and Brown, JL (1999)	Archetypes of professionalism and partnerships in Canadian Law firms
Burn and Robins (2003)	Managing business process change for e-government initiatives in Western Australia
Morris and Empson (1998)	Expert knowledge in the formation and survival of professional service firms (PSFs) [accounting and consulting and legal]

Table 6: Literature Scan – Research in Legal Firms

It was determined as a result of the findings shown in Table 6: Literature Scan – Research in Legal Firms that the legal profession is poorly researched in the context of organisational change. Whilst the case studies identified show 'evolution', their research focal points are based on 'knowledge' or 'professionalism' or implementing online projects. Furthermore, the literature exposed a lack of research undertaken in legal firms concerning continuous organisational transformation. As a result, the decision to exploit the client connection was taken.

The limitation recognised in making this decision was that the sampling criteria would not be met, and First Legal Services would be invalid as a research target. To validate FLS it was decided to hold an initial interview with a number of senior staff engaged in 'business change' in FLS. The purpose of these interviews was to determine whether the sampling criteria for research target selection were satisfied.

The initial interview was guided by a set of questions designed to determine whether the sampling criteria were met. The questions are noted in the Sampling Interview Template in Appendix 1 on page 301.

Two interviews were held face to face with two senior representatives – James Duck and Alice Brown – at FLS' premises in London. This minimised operational disruption to the interviewees. The results of the interviews were assessed against the case entry qualification criteria. The basis for the decision to include FLS as a valid research target organisation was noted against the identified criteria. The results are shown in the Sampling Criteria Selection Results – The Decision Framework in Appendix 1 on page 303.

Note: First Legal Services is a wholly fictitious name and any similarity to any real company is unintentional and purely coincidental. The purpose of this naming is to provide anonymity and protect the company who partook of this study. Anonymity and information sensitivity is discussed later in this chapter.

3.4 The Research Process

Having taken the decision to use FLS as the research target organisation, an outline research plan was defined to 'tell the story' of the CMI BPRN evolution. The research process described above was carried out in three stages:

Stage 1: the introduction of the researcher to the research environment

Stage 2: the BPRN is identified

Stage 3: the BRPN evolutionary storyline is developed through data collection and analysis

3.4.1 Stage 1: Introducing the Researcher and the Research

There were two activities in this stage. First, a formal letter of introduction was sent to the contact within FLS from the sponsoring academic institution. Second, a Research Briefing Pack was provided for the management team of the target organisation. The purpose of the Research Briefing was to facilitate a greater understanding of the research area by potential interviewees. It also enabled a dialogue to be established between the researcher and the management team. The dialogue enabled the management team to raise any queries in advance of the research activity. The advance notice provided an opportunity for FLS to co-ordinate and prepare resources they deemed necessary to support the research process. The Letter of Introduction and the Research Briefing Pack are included in Appendix 1 – see Introductory Letter & Target Organisation Briefing Pack on page 296.

An initial discussion took place with James Duck (JD), the COO of FLS and one of the senior partners of FLS. JD is responsible for the overall performance of the business units of FLS. He also has a specific remit over new matter induction and global specialty practice development. JD has been associated with FLS for intermittent periods over the last 30 years. He has in-depth operational knowledge of the organisation. His activities have contributed to the

strategic direction of FLS through direct intervention and management. JD suggested that the Client Matter Induction process may be a suitable candidate for study:

"… the client matter induction process – I mean that's probably the biggest link we have to the outside world and the biggest one where we've had to rejig stuff in the last few years" ~ [1]

JD also has direct managerial accountability for the performance of this process, making him an internal definitive stakeholder. JD spoke informally about enlisting the engagement of other parties whose activities and accountabilities were directly related to the CMI process. JD identified five other executives within the firm. It was to this group that the study process was directed.

The formal letter of introduction and the research briefing pack was sent to JD and the five nominated executives on 6th October 2008. A conference call was held with JD on 8th October to conduct a brief question and answer session for the recipients of the letter and briefing pack. From this call, two participants were of specific interest – Alice Brown (AB) and Paul Deschamps (PD).

AB was a commercial litigation specialist. She was responsible for the direct matter induction for new and existing clients across the UK. Matter induction is reported in the business portfolio and contributes to performance. AB's role in FLS was to engage with multiple teams to ensure the correct specialties were employed for client work. This included ensuring all matters are referenced for resolution against billing, audit, and regulatory reporting.

PD was the chief information strategist. PD was responsible for the information systems, services and solutions which underpin business processes. This included technological solutions to support management information reporting requirements and the associated technology assets.

Together with JD, these individuals directly influenced the resources engaged in the client matter induction process. These stakeholders were chosen because they control resource access and availability and benefit from resource performance. By implication, they were the most likely to intervene when dissatisfied issues within the CMI process were identified.

The CMI process is critical in the maintenance and development of the client base. The revenues (fees) earned from the client base are reflected in the overall performance of the organisation. The key measure for the CMI process is consolidated with other performance data into the FLS business portfolio value. The portfolio value is therefore directly related to the client matter induction process.

3.4.2 Stage 2: Conducting the Research

There were two activities within this step. The first activity involved identifying the Business Process Resource Network. Using MacKenzie's (1986) principles of 'process law', the actual BPRN was described by identifying the actors and their relationships. Although SNT offers a formal methodology for network capture through matrix notation, ANT is limited in its prescriptive ability to define 'networks' for notation purposes. Practitioner literature however provides the graphical means to display actors and entities types.

Consequently a Network Capture Template was devised to identify the actors (human, process or technological) engaged in performing the process, and to identify how these actors related to each other in the process. This Network Capture Template is shown below in Figure 7 : Network Capture Template Observations (page 1):

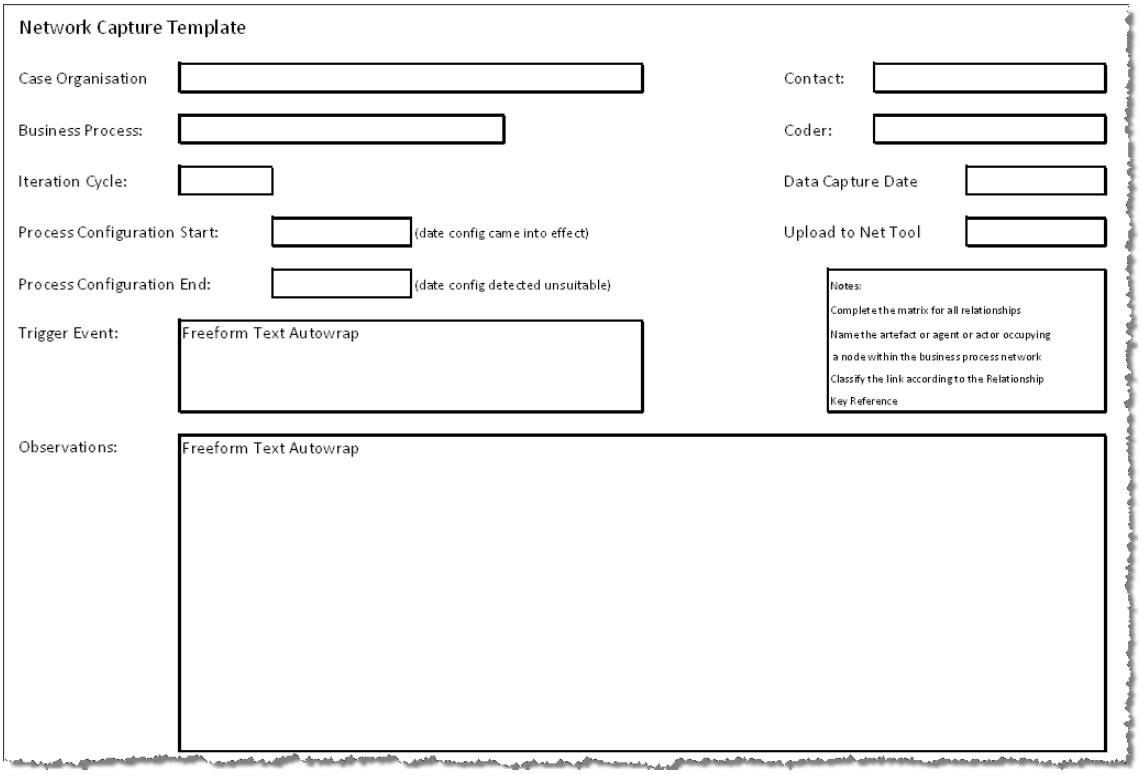


Figure 7 : Network Capture Template Observations (page 1)

The fields identified in the Network Capture Template shown above in Figure 7 : Network Capture Template Observations (page 1) to capture the data are described in more detail in Table 7: Field Descriptions for the Network Capture Template shown below:

Field Name	**Field Description**
Case Organisation	The name of the Organisation in which the study is taking place
Contact	The name of the primary contact within the Case Organisation.
Business Process	The business process which is being investigated. This is the means to identify the business process resource network
Coder	The name of the person entering the data into the capture template in the event more than 1 researcher is engaged
Iteration Cycle	The number sequence assigned to this capture event. This enables “capture 1” to be differentiated against “capture 2” for example. The

	interview data, the network capture data and the supplementary information will give a context to the changes between “capture 1” and “capture 2”. This capture of iterations depicts the evolution of the business process
Data Capture Date	The date on which the data capture template is filled in
Process Configuration Start	The date upon which it was recognised that the specific configuration of resources was enacted for operation for the business process
Upload to Net Tool	The date of any data loading into supplementary tool sets (where used)
Process Configuration End	The date upon which it was recognised that the specific configuration ceased to be in operation for the business process in question. The capture of this date enables the duration of lifetime of configurations for each iteration to be captured
Trigger Event	The description of any specific or noteworthy event that affected the configuration of the resources engaged in the business process. The source of this event may be internal or external. Supplementary information from other data sources may be used to provide greater insight into the trigger event.
Notes	This is a reminder/prompt notation included in the capture template The field is also used to record any opinion or questions relating to the specific data gathered
Observations	This is a freeform text field to enable the coder to capture any additional notes from the interviewees during the interviews and in network definition

Table 7: Field Descriptions for the Network Capture Template

The reason these fields are included is because they captured events and experiences of BPRN transformation. Where information or events could be measured, the capture template facilitated recording this information.

The second page – the Network Definition Matrix - was used to denote explicit resources types and relationships identified by the interviewees. The Network

Definition Matrix is shown below in Figure 8: Network Capture Template - Definition Matrix (page 2):

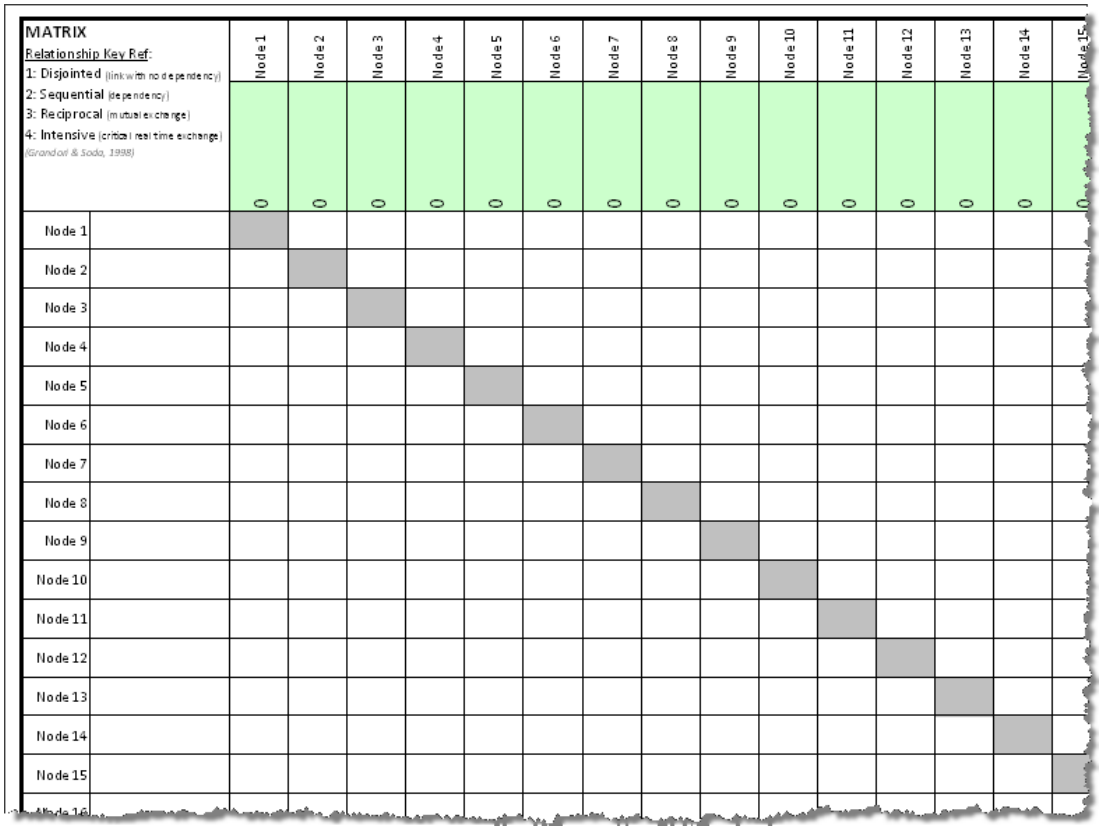


Figure 8: Network Capture Template - Definition Matrix (page 2)

Where Social Network methods provide for the grid only, the use of this two-part template facilitated capture of the actors, their relationship intensity, and provided “space” for narrative experience to be recorded. Thus the Network Capture Template draws on the principles of SNT to establish the matrix of relationships. Additionally, the network definition matrix is a grid which allows the identification of node names and node relationships. The specific relationships between nodes can be identified by using the tie type classification identified by Grandori and Soda (1998). The specific typology is noted in Appendix 2: Typology for Describing Resource Relationships on page 306.

For example, within the grid, Node 1 in the first row has a blank cell next to the Node 1 label. The blank cell may be used to describe the component of the network. The relationship between Node 1 and Node 2 can be noted as “1” (Disjointed), “2” (Sequential), “3”(Reciprocal), or “4”(Intensive), depending on the nature of the relationship tie. Relationships are then cross referenced across the grid to ensure integrity within the network construction. Greyed out cells within the grid represent the node-to-same-node relationship.

Since the BPRN may comprise different types of actor, it is possible for points in the network (nodes) to have relationships between different actors – human to technology for example. The relationships present were identified, together with how the actors and their relationships change over time.

The second activity was the interview process. Interviews were determined as the most appropriate means to obtain narrative explanation (see for example, Langley, 1999; Rubin and Rubin, 2005; or Myers, 2013). Further, by using an ‘iterative’ process which revisits the topic, the validity and reliability of the narrative capture is improved. The logic in this process is shown in Figure 9: Building the BPRN Evolution Narrative & Models:

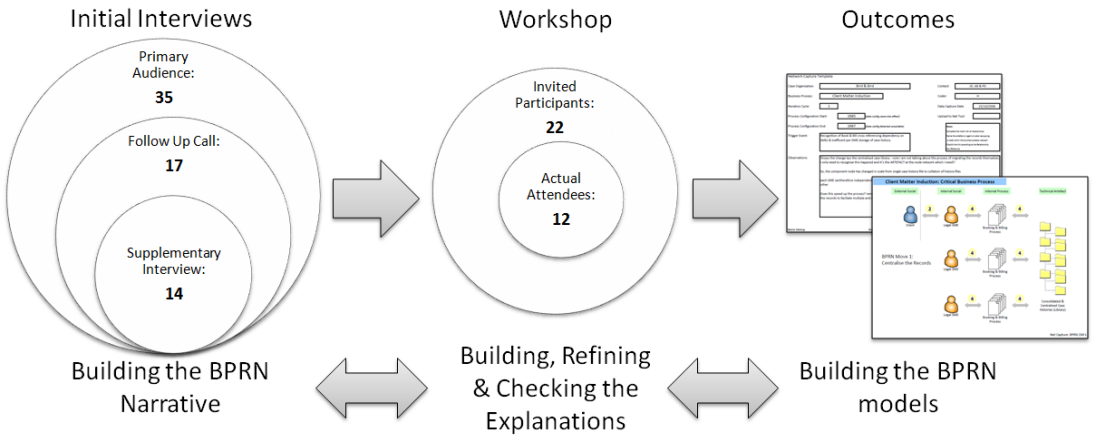


Figure 9: Building the BPRN Evolution Narrative & Models

The purpose of the interview process was to ascertain how the BPRN builds and changes over time. The interview process involved speaking with 35

individuals who were ‘connected’ to the BPRN in some way – through (for example) information processing, information provision, as recipients of outcomes, as controllers or enablers. Of those, 14 were spoken to again, and 17 follow up calls were made to verify findings or check understanding. 22 people were invited to attend the ‘evolution discussion workshop’, with 12 attending.

To establish the narrative:

- 2 rounds of interviews were conducted with the resource network owners on digital voice recorder;
    - The interview log is shown in Appendix 3: Interview Log & Workshop Participants on page 308
- 1 workshop was conducted for the same team to ensure consistency of interview and data capture based on the interview information gleaned;
    - The workshop was structured around 1 single question: “What is going on here?”
    - Using MacKenzie’s (1986) guidance for process description , the discussion and development of the visual map focused on:
        - The entities involved in performing the process;
        - The elements used to describe the steps in a process;
        - The relationships between every pair of these elements;
        - The links to other processes; and
        - The resource characteristics of the elements.

For completeness, the interview log and workshop participants are listed below in Table 8: Interview Log & Workshop Participants:

Interview Log

Date	Name	Title / Role	(min)	2nd interview?	(min)	Follow up call?	(min)	W'shop	Notes
15/09/2008	Alan Goodridge	Senior Partner	35	03/10/2008	15	24/10/2008	5	N	
	James Duck	COO	45	03/10/2008	30	24/10/2008	10	N	Over 30yrs!
	Ian Salter	Client Liaison	30			29/10/2008	20	Y	10yrs in co
16/09/2008	Michael Beckinsale	Client Accounts	30					N	
	Vanessa Ridgefield	Client Accounts	45	14/10/2008	30			N	
18/09/2008	Tobias ("Toby") Quinn	Client Reporting	50	22/10/2008	25			Y	International offices reporting
	Vivien Tupper	Client Reporting	35					N	
22/09/2008	Jean-Michel Prideaux	Technologist	35					n	
	Paul Deschamps	Technologist	50	14/10/2008	45	24/10/2008	10	y	Has understanding of the tech history
24/09/2008	Matthew Chandler	Accounts	30					n	
	Susanne Bentham	Accounts	45			03/10/2008	20	y	Works with Audit
	Zoe Abrahams	Accounts	45			03/10/2008	15	y	Irregularity tracking reports
29/09/2008	Fabienne Dorrell	Tech Project Mgr	75	10/10/2008	45			y	Case History migration project experience
	Jonathan ("JP") Partridge	Tech Project Mgr	65	10/10/2008	40			y	Case History migration project experience
01/10/2008	Ingrid Rollason	Billing	55	22/10/2008	35			y	Works with Accounts n Client Liaison
	Mary Knight-Rutledge	Billing	45					n	
	Janek Krawczyk	Records	55			14/10/2008	15	y	Used to work in Resource Planning
	Matt Chapman	Records	70			14/10/2008	10	y	Used to work in Resource Planning
03/10/2008	Joyce Cavanagh	Process SME	50	16/10/2008	35			y	15yrs in co
	Patricia Beatty	Process SME	35	16/10/2008	30			y	8yrs in co
07/10/2008	Maria Consuela Martinez Arania	International Accounts	55	22/10/2008				n	
	Rachel Bennington	UK Liaison	35					n	

09/10/2008	Nigel Oakley	Tech Strategy	35			15/10/2008	30	y	Contracts outsourcing & critical systems
	Nick Nye	Tech Strategy	30			15/10/2008	15	y	Service Manager
	Fergal Moynihan	Tech Project Mgr	40					n	
14/10/2008	Christos HajiGeorgiou	Contracts	50			23/10/2008	5	y	Book to Bill contract reconciliation
	Nick Beecham	Contracts	55			23/10/2008	15	y	Book to Bill contract reconciliation
15/10/2008	Keith Nugent	Client Liaison	55			24/10/2008	10	n	
	Maddie Franks	Process SME	45			24/10/2008	15	y	9yrs in co
	James Hong ("Jimmy")	International Accounts	50			23/10/2008	25	y	International offices reporting
20/10/2008	Anna Starkey	Practice Specialty Mgr	35	22/10/2008	25			y	SME groups co-ordinator
	Colin McLintock	Practice Specialty Mgr	45	22/10/2008	15			y	SME groups co-ordinator
	Rob Cowdrey	Practice Specialty Mgr	45					n	
22/10/2008	Martin Laverick	Audit	75	24/10/2008	30	27/10/2008	10	y	11yrs in co; brought in to ensure Portfolios maintained
	Ben Moore-Roberts	Audit	55			27/10/2008	15	y	Developing IS systems with Accounts
	35		**27h10 m**		**6hr40 m**		**4hr5 m**		

WORKSHOP

Date	**Name**	**title/role**	**Att?**	Follow up call?	**(mins)**
30/10/2008	Ian Salter	Client Liaison	y	03/11/2008	10
	Tobias ("Tobi") Quinn	Client Reporting	y	03/11/2008	15
	Paul Deschamps	Technologist	y	03/11/2008	20
	Susanne Bentham	Accounts			
	Zoe Abrahams	Accounts	y	03/11/2008	10

Fabienne Dorrell	Tech Project Mgr			
Jonathan ("JP") Partridge	Tech Project Mgr	y	03/11/2008	15
Ingrid Rollason	Billing	y		
Janek Krawczyk	Records	y		
Matt Chapman	Records			
Joyce Cavanagh	Process SME	y	03/11/2008	10
Patricia Beatty	Process SME			
Nigel Oakley	Tech Strategy	y	03/11/2008	10
Nick Nye	Tech Strategy			
Christos HajiGeorgiou	Contracts	y		
Nick Beecham	Contracts			
Maddie Franks	Process SME	y		
James Hong ("Jimmy")	International Accounts			
Anna Starkey	Practice Specialty Mgr	y	03/11/2008	15
Colin McLintock	Practice Specialty Mgr			
Martin Laverick	Audit			
Ben Moore-Roberts	Audit			
		12		

Table 8: Interview Log & Workshop Participants

To develop the visual mapping:

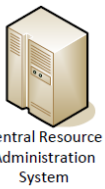
- The BPRN was identified and drawn out using network mapping principles from ANT and SNT to capture the resource actors and their relationships in collaboration with the interviewees
    - supplementary notes were included as “memory joggers” and narrative opinion on the data capture record sheets
- The interviewees explained and described any resource actor movement where they could (captured in the context fields on the data capture record sheets);
    - The limitation in the data gathering process recognised at this point was that individual memory fades over time. As a result, all the data was shared to test and compare recollection. In some instances, annals and reports were brought for inclusion in the discussion
    - The second caveat recognised at this point is the inter-observer reliability (or inter-rater reliability) for the events occurring either in the environment of FLS or within the BPRN itself. This was addressed by checking the data through iterative-triangulation.
- The documentation provided (internal confidential financial reports and Annual Statements) was analysed to establish the timeline of any trigger events such as office openings, or highlight any significant events;
- The BPRN evolution storyline was constructed based on interviews and workshop data; further analysis of the frequency of events was undertaken to provide a means to understand the volume of change activity
- The BPRN evolutionary map was drawn up to identify the evolution of events from the multiple perspectives identified
- The evolutionary storyboard (both the image collection and the network matrices generated) of the BPRN was presented to the interviewees for their feedback

Langley (1999) argues that graphical strategies offer a means of data reduction and synthesis that is more flexible than perhaps quantification strategies offer. However, she continues that unless the 'visual' is supported by other methods, the findings only deliver 'surface' outcomes rather than underlying forces. Every opportunity to determine a "reason why" was noted in the narrative capture process to address this methodological shortcoming.

The development of the evolutionary map was supported by the use of an agreed set of icons to represent resource types. Sadly, both SNT and ANT lack meaningful, representative 'node' identifiers to describe the actors in place within a BPRN. Consequently, the decision was taken to use a basic set of icons drawn from various practitioner literatures on 'networks' to represent the resources and relationships of the actor network.

The icons were used to draw out the evolution of the BPRN. This icon set was drawn up by the workshop participants together with this researcher, and was drawn from practitioner literature which identifies iconic symbols as representative of artefacts and resources in use within a business context. The icon set used is described below in Table 9: Network Definition: The Icon Set Explained:

Actor Network Icon	Actor Network Icon Description
	The name of the human actor (or group of actors if this represents a group being treated as a single entity). The actor node may represent a role if the actor is not uniquely identifiable. For example: the icon may represent a Cashier role – the actor within the network is always fulfilling this role even if the occupant of the role changes.
	Icons or groups of icons like this refer to other business processes. The Process itself is an Actor. Sometimes these processes are dependent upon each other for inputs or outputs. The importance of these relationships is shown using

	the tie strength value.
	This icon is used to represent the aggregate performance of all the information feeds and outcomes from the processes affected or engaged in the business process under investigation.
	This icon type represents a physical technical artefact present within the actor network. This actor icon type describes physical hard copies of materials (often filing systems) which act as recipients or reference points or data.
	This icon type represents a physical technical artefact present within the actor network. This actor icon type describes physical machinery and technology components which as together to provide a data service. Groups of this type of Actor are often managed at the technology level only, not at the data or service level they provide within specific business processes.
	Arrow type icons represent relationships between actors within the network. If an arrow icon only has one end, then the relationship is uni-directional (towards the arrow head). Arrows like this one shown are bi-directional – that is, information flows to and from the related actors.
	Icons like this represent the nature of the relationship between actors. Using the tie-type definitions from Grandori and Soda (1998), it is possible to denote the importance of the information being exchanged and whether this is time-critical or not. A simple key is identified based on these classifications: “1” (Disjointed), “2” (Sequential), “3”(Reciprocal), or “4”(Intensive). The key is drawn from the network tie descriptions used by Grandori and Soda (1998).

	This icon is used to identify any boundary which relates to the actors. For example: grouping all the technology based assets is shown by this outline.

Table 9: Network Definition: The Icon Set Explained

By using the Network Definition Matrix in conjunction with the icon set, the output of the data collection process was translated into a diagram. One example of a typical resultant BPRN is shown below in Figure 10: Sample Model Output:

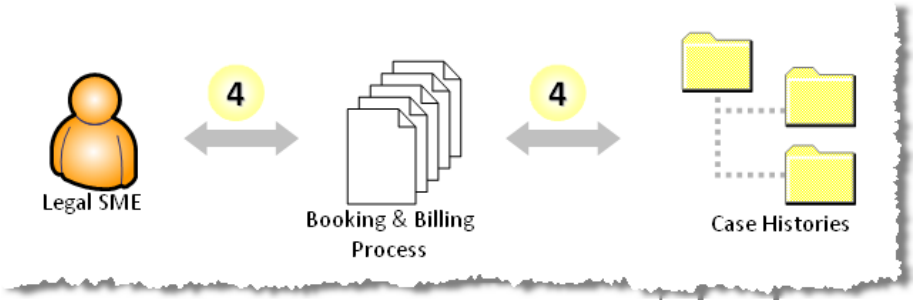


Figure 10: Sample Model Output

By way of explanation, and using the figure above, there are three actors in the BPRN: the Legal Subject Matter Expert (Legal SME); the Book & Bill process; and the Case Histories files. The relationships between these three actors are shown by the grey arrows, and the criticality of their relationships is shown with the number (4 in this instance). Grandori and Soda (1998) describe a relationship type "4" as "intensive" – that is, a relationship where information exchange is bi-directional, time sensitive and contextually important.

Thus the interpretation for the example shown in the figure above is: the Legal SME has a time-sensitive and content-critical relationship with the Book & Bill process (because this is how case files are generated). The Book & Bill process has a time-sensitive and content-critical relationship with case files because this is how the case files create client or matter data against which Legal SMEs book their time.

From the data available and using the informing documentation, the evolution activity was mapped out over the entire time period (identified as the BPRN layer events in the process map shown in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map on page 110). Each evolution was drawn out using the graphic icons and relationship types. Each change in BPRN was analysed where possible to show cause or reason for change; and each change was drawn out to show changes in linkage and dependencies.

Additional events drawn from the documentation data sources were used to inform the environment and context of the same time frame to provide a richer picture for the evolution activity. Changes evident from the resource network were related back to the literature to refine and enhance explanation of the evolution of the resource network.

Thus the research process established multiple sources of evidence, tested understanding by referring to multiple participants, and sought validation from both internally and externally published sources. At the end of the research process, the CMI process evolution map was presented to the participants for a final validation. Subject to discussion, the evolution map was refined and supporting network matrices were reviewed for completeness in description.

The story of evolution for the Client Matter Induction process is drawn from five sources in total. The use of multiple data sources addresses Yin's recommendations to improve the validity and reliability of the study (Yin, 1994). The five sources of data are shown below in Table 10: Data Sources used in Evidence Triangulation:

Data Source	Data Source Description & Purpose of the Data
Interview Transcripts	These are the narrative accounts of the participants in the process. The narrative records their perception of what has changed, why and how in relation to the CMI process.
Network	These templates fulfil two purposes. Firstly, there is the identification of the

Capture Template	resources engaged in the CMI process with their respective interdependencies. Secondly, the “observation” page captures additional narrative to explain the context of change activity for the CMI process.
Published Annual Accounts	These are the corporate records of results of the principal trading activities of the company published under UK law. The figures relating to turnover and the number of partners and offices have been extracted from these records to present an overview of FLS.
Strategy Briefing and IT Strategy documentation	There are internal documents made available to the researcher. These documents are commercially sensitive. Only data which has been consolidated or aggregated is used. Specific systems names and entities are identified using generic terms to respect the confidentiality of FLS systems.
Corporate Archives	These are the internal records of FLS. These are used to provide supplementary information relating to process changes as a result of internal audits (for example).

Table 10: Data Sources used in Evidence Triangulation

The analysis process used the interview data, the observation data from the network capture templates, and other information published or made available.

Then, every resource configuration identified from the Network Definition Matrix was drawn out using the icon set (please refer to Table 9: Network Definition: The Icon Set Explained). Both the observation notes and interview transcripts described the evolutions. The notes and explanations provided insight into the rationale for the changing resource configurations. Additional information was drawn from the data sources to provide greater detail. Every resultant configuration of the BPRN described using this methodology may be found in Chapter 4 Findings in the section discussing BPRN Layer 1 activity (see page 132).

3.4.3 Stage 3: Preparing the Findings - Data Collection & Analysis

3.4.3.1 Data Collection

Data was obtained from a minimum of three sources.

Firstly, there was information published by the organisation itself, specifically Annual Reports, company performance data, audit reports, technology strategy papers, and strategy briefings. Specifically, the documentation sources are noted as shown below in Table 11: Documentation Data Sources:

Time Period	Strategy Documents	Audit Reports	IT Strategy Documentation	Company Reports (includes Partners/Directors)
1985-1986	April 1986		Draft December 1985	
1986-1987		June 1987		May 1987
1987-1988	April 1988	(remedial statement)		
1988-1989			(draft August 1989)	May 1989
1989-1990			September 1990	
1990-1991		June 1991		May 1991
1991-1992	April 1992			
1992-1993				May 1993
1993-1994		(interim Jan 1994)	September 1994	
1994-1995				May 1995
1995-1996	April 1996	June 1996		
1996-1997				May 1997
1997-1998	April 1998		September 1998	
1998-1999		June 1999		May 1999
1999-2000				
2000-2001	April 2001		September 2001	May 2001
2001-2002		June 2002		
2002-2003	April 2003			May 2003
2003-2004			September 2004	
2004-2005		June 2005		May 2005
2005-2006	April 2006			
2006-2007			September 2007	May 2007
2007-2008	April 2008	June 2008		

Table 11: Documentation Data Sources

These documents are subject to restricted access, copying and dissemination outside of FLS and their onward publication is prohibited. Consequently, to extract data from these documents required a document template against which information was recorded without requiring the document itself to be retained.

The document analysis template contained three sections (after the initial document identification information), noted as ‘Key Points / Themes’, ‘Messages / Events’ and ‘Misc Notes / Observations’. These sections were designed to capture the overall document content where it related to the evolution of the CMI process. The document analysis template is shown below in Figure 11: Document Analysis Template:

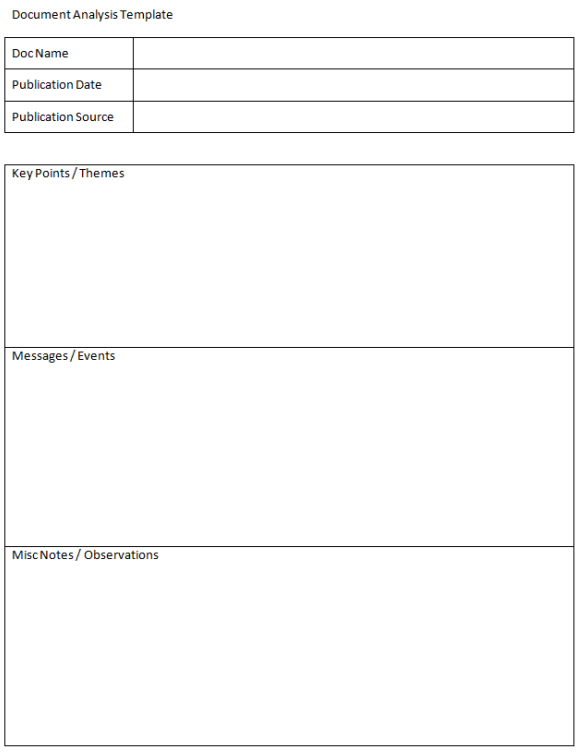


Figure 11: Document Analysis Template

The content of the documents was examined for material consistent with the analysis headings. Any items of note were identified and summarised for contribution to developing the BPRN evolution map. The noted items were

reviewed with the interviewees in workshop discussion for their relevance. The material was then 'allocated' against the BPRN evolution timeline, and against the causal map framework to identify the 'layer' at which the material was relevant. Within each document set, the Strategy documentation, the Technology Briefings, Audit Reports or remedial statements, the content was reviewed for key themes or main messages. These were noted and any observations added to the document template. Any points of interest such as the issue of ownership of business critical systems, or the requirement to remove SMEs from direct connectivity their own portfolios (for example), were marked on the causal map framework in their respective 'layer'.

The contributions from the document analysis to the BPRN evolution are shown below in Figure 12: CMI Process Evolution Map Development :

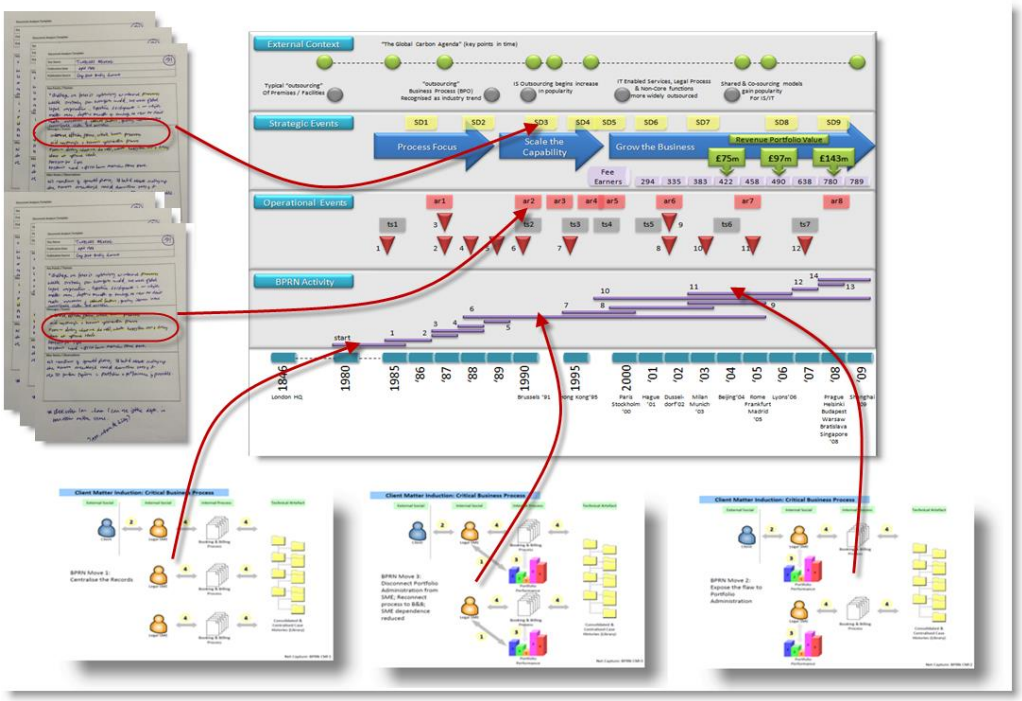


Figure 12: CMI Process Evolution Map Development

This figure shows the contributions from the documents into the respective layers of the causal map framework. It also shows the contributory actor

network structures and their longevity against the timeframe. The iterative process of data triangulation enabled the rich picture of CMI evolution to be constructed over time.

Secondly, there were interviews with the specific stakeholders who were directly accountable for the business process or the resources engaged in it. By definition from the literature, these are 'definitive stakeholders'. Interviews were recorded and transcribed. Notes and observations from these interviews were also kept as supplementary material. The interview log is shown in Appendix 3 on page 308.

Thirdly, there was completion of a Network Capture template. The Network Capture Template facilitated the identification of the BPRN components and their relationships.

Thus the ways of acting of things has a method drawn from both Social and Actor network theory, to allow contextual information to supplement actual events. Moreover, the approach supports theorising "why" events have explanations, and the story of BPRN evolution is enriched.

3.4.3.2 Data Analysis

The research question this study focussed on is "How do BPRN morph over time?" The analysis phase sought to find answers from the exploratory case by using the questions identified from the Literature Review. Specifically, these questions were:

- What are the resources involved in performing the business process?
- How are these resources identified and described?
- What relationships exist between the resources in this network?
- How is this resource network changing and why?

Consequently, the analysis phase focussed on answering these questions.

The first stage of the data analysis triangulated interview data, observation data from the network capture templates, and other information published or presented to the researcher as a potential information source. This triangulation made it possible to capture stage by stage changes. Each stage by stage change therefore had a contextually informed transformation. It also served to validate longitudinal data where no 'memory' was present through individuals' recollections and other sources were relied upon.

Analysis began as a linear step by step process to draw up network configurations from interviews, refine them from workshop data, and use documentary evidence to challenge resultant configurations. The analysis process began by using the actor network model captured using the Network Definition Matrix as the starting point. Each specific matrix represented a 'time-stamped' state for configuration of resources comprising the business process.

Both the observation notes and interview transcripts described the evolutions. This provided insight into the rationale for the changing resource configurations. In many instances, it was possible to identify the trigger or cause for change to have taken place. The multiple sources of date were collated to form a summary evidence triangulation table to match the disparate data source content with the network models which emerged. This evidence triangulation table is shown below in Table 12: Evidence Triangulation Framework:

Evolution	Actor Network Features					Observations
	Nodes	Ties	Cut Points	Bridges	Lag Time	Descriptions & Notes
Iteration Reference Number	0	0	0	0	0	Any remarkable features or explanation for composition Any specific events or triggers identified Any supplementary notes or information from other sources to support or explain the current configuration or explain any trigger or other event affecting the configuration

Table 12: Evidence Triangulation Framework

In Table 12: Evidence Triangulation Framework above, there are three main sections for data. The 'Evolution' column denotes the iteration reference of the BPRN as changes are noted throughout its lifetime. The 'Actor Network Features' column is used to identify specific network features such as the number of actors (the 'nodes'), the number of relationships present (the 'ties'), the number of points at which the network could theoretically 'break' or 'join' either through a relationship (the 'cutpoints') or through a resource actor (the 'bridges'). The observation column was used to summarise the recall of workshop participants and to note any specific observations from the other data sources.

In addition, this evidence triangulation data table made it possible to extract specific features such as durations of each BPRN configuration, or to identify specific event triggers.

The second stage of data analysis was to develop the process evolution map to enrich the triangulation undertaken in the first stage. This provided a multi-level perspective of the transformations. Information was drawn from the published sources made available, anecdotal evidence and discussion, and industry

trends identified and referred to in the course of FLS' business. The mapping of these events followed the approach developed by Snook (2000), and showed four specific "layers" of events which occurred over the timeframe.

The analysis phase became an iterative cycle of 'causal map' plotting and network definition matrices review. Alongside this iterative cycle, the supplementary secondary data was used to enrich the story-line for the BPRN. Completion of the evidence triangulation table was 'messy', but informative.

3.4.3.1 Understanding the Data

Snook (2000) describes the process of understanding the data as knowing exactly "what" went on. To understand the "what", the network capture templates were used to identify the resources actors and their relationships in the business process. The commentary from the workshops was used to annotate these templates. Interview notes were used to supplement any explanation of activity. Additionally, the published reports were reviewed to identify reasons for activity in the BPRN. As a result, it was possible to classify event types and describe their frequency. The findings generated in preparing the data are tabulated in Chapter 4 Findings.

3.4.3.2 Developing the BPRN Evolution Map

To develop the causal map, a draft diagram with 'swim lanes' was drawn to allocate events, activities or other findings into specific layers. The time line of events was plotted along the x-axis of the BPRN evolution map. The time line was not partitioned into equal blocks of calendar time. Rather it was drawn to illustrate phases identified by FLS during which the BPRN transformation occurs. This follows the temporal bracketing strategy (Langley, 1999).

Operational events - such as the issue of specific reports produced (audit reports, technology strategy documentation et al) - were plotted within one 'swim lane' denoted as Operational Events, and noted against the time line.

Strategic activity - such as the identification of the strategic focus being adopted by FLS – was plotted in a separate swim lane. Additionally, other strategic – level data was plotted against the timeline. For example, the number of partners and the reported revenue values are shown.

Activities or events occurring in the external environment of FLS were plotted in another swim lane. Two specific event streams were identified in the course of the research: the impact of the “green” politic and influence of the carbon agenda on legal matter induction; and the technological influences of outsourcing. These two streams were identified by FLS as reasons for changes in the Client Matter Induction process.

Following Snook’s (2000) framework for developing a causal map, the transformation of the BPRN was described at four levels. Firstly, a thin description of the transformation activities which occur in the network itself was noted. Secondly, the operational level organisational events occurring in the same frame were identified. Thirdly, the strategic level events occurring in the organisation were noted. Finally the BPRN transformation was considered in its widest context by taking into account external events.

These steps were used to describe how and why the BPRN evolved. Causal mapping – as a visual mapping strategy - is one of the only strategies which permits researchers to present sequences of events which occur over time, even though they occur at different levels of analysis. It is also the only strategy to highlight conjunctive causality with the multi-layer perspective, where no one single event is the cause, but the combination of events presents the impetus for change.

The outline BPRN evolution map for the CMI process is shown below in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map on page 110. The map shows the series of events identified in the research occurring over a thirty year period. An explanation of the symbols used to depict various events

in the timeline of this is shown in Table 13: Key to BPRN Evolution Map Symbols which follows Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map:

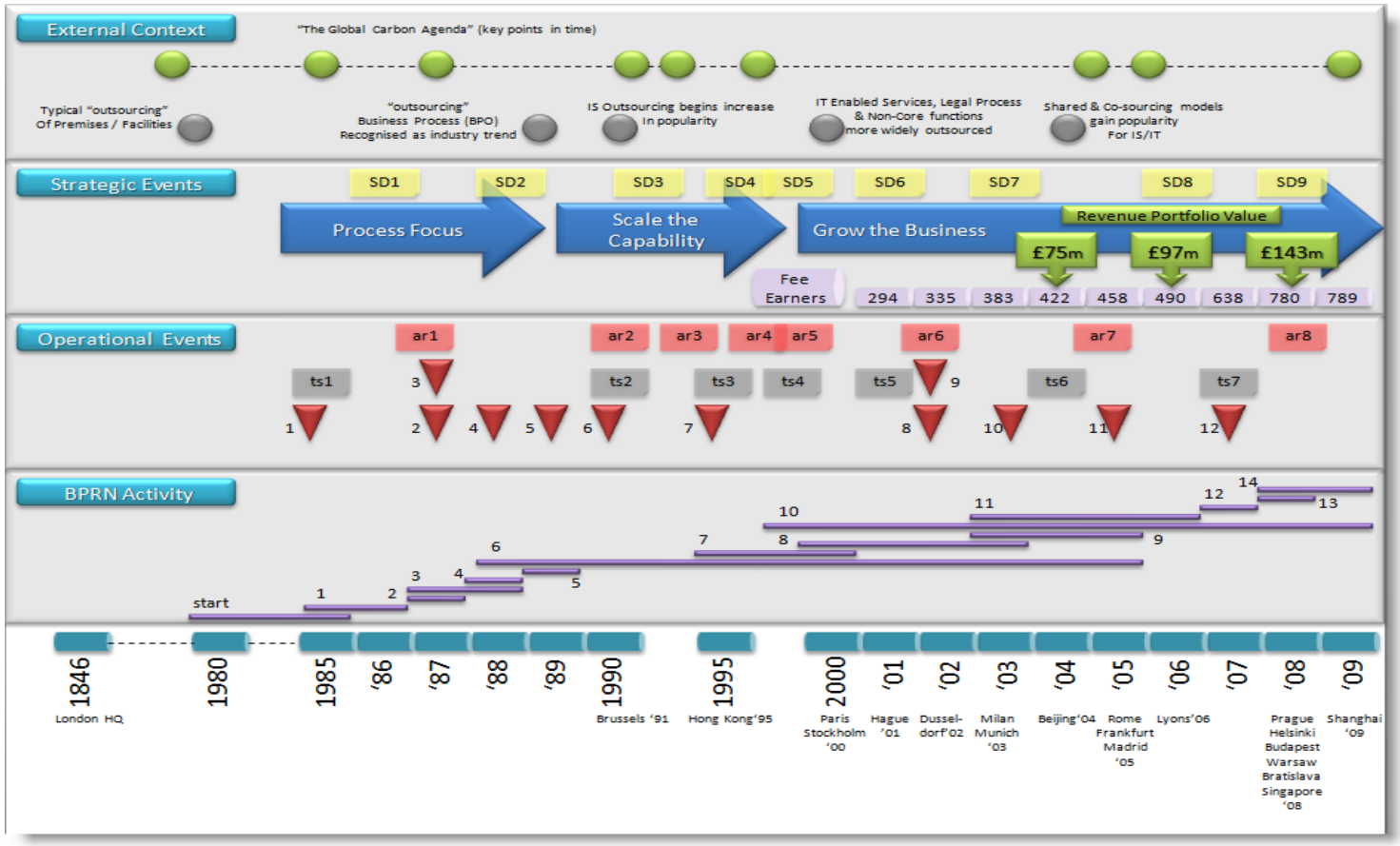
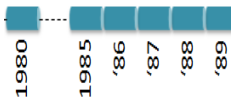
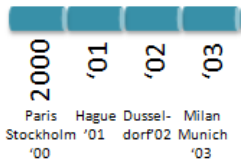
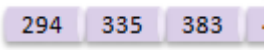


Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map

Symbol Example	Descriptions from the Data Sources
	This represents the time line over which the events take place. Sources: interview data; strategy briefing documentation; network definition observation notes
	These types of entry represent the inauguration of new offices in specific locations. Offices open when sufficient business volumes make it viable to do so. Sources: interview data; directors reports; internal audit reports; published accounts
	Example of specific external events (Carbon Agenda related) Example of identified industry trend (technology outsourcing)
	This is an indicator of the number of direct fee earners within FLS shown over the time frame considered. Fee earners use the CMI process to generate fee revenue. Sources: directors reports; internal audit report; published accounts
	This represents the value of the Portfolio reported against the time periods 2004, 2006 and 2008. The value of the Portfolio is generated as fee earners use the CMI process to record generated revenues. Sources: published accounts; internal audit report
	This represents a published data source – these are noted: SD*n*: Strategy Document ar*n*: Audit Report TS*n*: Technology Strategy (n represents the codified year of publication)
	This represents the strategic intention, focus, or business driver which governs a particular time period. Rindova and Kotha (2001) identify similar focal business drivers as "strategic thrusts". Source: strategy briefing; internal briefing (IT); directors report; interview data

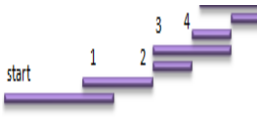
	This represents a specific trigger point in the life time of the CMI process. Each trigger event is numbered. Source: network definition matrices and observation notes; interview data
	This represents a change in the composition and or configuration of the BPRN itself – an evolution of form over the time period. Each evolution is numbered. Note that the BPRN endures for variable durations (hence the variation in bar length). Source: network definition matrices and observation notes; interview data

Table 13: Key to BPRN Evolution Map Symbols

In Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map, the timeline begins in 1846 and ends at the start of 2010. Within the strategy documentation in FLS, there were three specific phases of organisational development identified. These were noted in the BPRN evolution map by the shaded arrows labelled as “Process Focus”, “Scale the Capability”, and “Grow the Business”. Rindova and Kotha (2001) use the term ‘strategic thrusts’ to identify focal business drivers which are present in firms. They also suggested that the duration of a strategic thrust was variable.

Using the causal map approach, the duration of the strategic thrusts in FLS was identified. Each phase relates to a time period of variable length, the duration of which depends on the organisational circumstance or focus at that time. Whilst it is possible to use the current calendar system for bracketing time into regular time periods, ‘time’ in this map has been thought of in terms of these phases. The time periods are not restricted to years or months but were described in phases.

The specific business process events were denoted by the inverted isosceles triangles. These events are described in greater detail in Chapter 4 Findings. Also noted against the timeline were the organisational events such as office

openings around the world. Office openings are indicative of the CMI process being successful across the wider environment in which FLS operates. Additional data were included to show the organisation's revenue performance (where known) and the number of practicing partners in the last phase identified. This is because 'revenue' and 'partners' are indicators of success in legal firms.

The inclusion of such data aligns the integrative research approach (Rousseau & House, 1994) with the multi-level view of complex phenomena (Bhaskar, 1994). Moreover, Snook (2000) advises the inclusion of such data to support the ongoing triangulation process and to enrich the understanding of the context. The three research strategies used in conjunction with each other, provided the story board for the 'ways of acting of things'.

3.5 The research context: First Legal Services: the Organisation in its Environment

FLS is an international legal organisation with offices in Europe, the Middle East and Asia. Founded in London in 1846, FLS has 21 offices from Brussels to Beijing. The majority of this expansion occurred after 2000, the exceptions being Brussels and Hong Kong. FLS offers a comprehensive range of legal services to clients in various industry sectors. These sectors include Aviation, Aerospace, Financial Services, Communications, Information Technology, Media, Life Sciences and Sport. Its practice specialities noted from corporate literature, include:

- Arbitration
- Outsourcing
- Banking and Finance
- Patents and Know How
- Commercial Privacy and Data Protection
- Copyright
- Real Estate
- Corporate Restructuring and Insolvency
- Public Sector Contracts and Disputes
- Dispute Resolution
- Tax, EU and Competition Law
- Trade Marks and Design
- International HR Services
- Trade and Customs

- Corporate, Regulatory and Administrative practice

The coverage of these practice specialities in relation to the industry sectors provides many of the sources of change. Changes stem from regulatory, legislative, and country specific concerns as well as from clients. Changes often relate to one or more subject matter areas. The services provided by FLS frequently involve coordinating international offices, practice areas, and industries. As a result, FLS expertise becomes relevant to multiple clients around the world. Sometimes, FLS develop the expertise to become a new service to increase its practice coverage or to enhance sector specific capability.

3.5.1 The CMI Business Process

The business process 'starts' for matter induction at the point at which a trigger for matter creation or matter referral is recognised by the company. Such triggers could be internal – such as an idea or a research finding or report – or external – such as a new client request, or a new legislative act, or the emergence of a societal issue requiring legal attention.

The business process 'stops' once there is a recognised matter within circulation within the firm against which activities or resources or other processes take it over. The process is typically operated by legal subject matter experts (known as 'SME's'), and represents a 'pipeline of work' for much of the activity within FLS. In the same way for example as a sales organisation may have a 'pipeline' of leads, the CMI process is the point of lead development into a legal matter. The process occurs for every matter that is taken on by the firm – several instances of the process may be operating at any one time.

3.5.1.1 Key Case Study / Participant Terminology

A number of key terms were used extensively by the participants in the course of this study. In order to aid a better understanding of the study, these terms are described below in Table 14: Key Terminology for the Research Setting:

Term Used	Definition of Term, (Meaning and Relevance)
Case	The collection of the papers, undertakings, correspondence, rulings, judgements, appeals, settlements, transactions, fee schedules, commercial, contractual, criminal, or other notes associated with legal matters. There are requirements under current UK legislation to retain copies or records of cases for a certain time period.
Client	Any external party who engages with the firm on a ***matter***.
Matter	This is a term adopted in the legal profession. It is used to describe an instruction or an issue coming from an external source.
Matter Induction	This is the legal process for formally accepting ("inducting") the matter into firm for work to be undertaken. This may be "direct" (from the source of the matter) or "indirect" (as a referral)
Portfolio	This is the reported collation of the value (in UK Sterling), subject area or content of matters undertaken by the firm. The portfolio is reported every quarter of the financial year. The content of the report includes the areas of litigation which the firm is handling (for example: commercial contracts). The portfolio value is reported every quarter using the measure of fee revenues earned and accrued for the value of work undertaken within that period. Portfolio measures are of interest to the firms' Partners because this represents the value of the business within their remit. ***Matters*** undertaken by the firm for which fees are earned have a direct relationship to the Portfolio. Consolidated data taken from the Portfolio is reported in the annual accounts.
Practice	This is the term used to describe the group of subject matter experts who operate as a collective unit across the organisation. The subject matter experts may specialise in specific industry sectors yet belong to the same practice.

Specialty	This is the term used to describe an area of specialist knowledge or capability which resides within the firm. A "specialty" typically consists of a number of subject matter experts grouped in a ***practice***.

Table 14: Key Terminology for the Research Setting

3.6 Limitations of the Methodology

Like all methods, there are limitations to recognise with the approaches undertaken.

3.6.1 Longitudinal Study

One immediate limitation of this research method is the reliance on participants' memories and recollections of events occurring in the past. Consequently, triangulation with secondary data sources and narrative was undertaken to mitigate this shortcoming. The research process did however bring to light a number of participants who had served with FLS for some considerable time.

In addition, this is an exploratory case of a single BPRN operating in one single company. Future research will need to be undertaken under the same protocols for selection before meaningful comparison may be made.

3.6.2 Research Engagement

Another major limitation was this researcher's full time employment status at the time of the study meant that it was not possible to conduct longitudinal and real-time study for this research. Arguably, the research strategies and findings preparation – both drawn from theory - were suitable for the exploratory case into BPRN transformation. The methods advised by Langley (1999) and developed by Snook (2000) were employed to offer the richest possible picture of microstate morphing.

3.6.3 Data Asphyxiation

As a single researcher, the danger of data asphyxiation - potentially vast quantities of meaningless data – is a danger recognised by Eisenhardt (1989). Consequently, wherever possible, data was shared, logged, noted, mapped or drawn out so that further discussion or validation could occur. Only critical articles were then kept, key dates or key commentary noted, or agreed storyboards retained.

3.6.4 Information Sensitivity and Participant Anonymity

The level of access to information by the researcher meant that certain commercially sensitive information was available. In order to make use of the data, a number of confidentiality assurances had to be given. Firstly, the true name of the organisation had to be replaced by a fictitious one: First Legal Services. Secondly, the performance and financial data of the organisation has had to be limited to information available through the company reports. Finally, specific names for the organisations' internal information systems were replaced by generic terms. For example, the label "book and bill" for another business process describes a specific process which is supported by a specific computer system.

A number of documents (specifically the internal audit reports) did indicate a period of contention between 2002 and 2005. It was not possible to make use of these sources to bring to light the nature of the contention or any impact the contention had upon the evolution of the business process resource network. There are references within the data which indicate decisions to outsource specific operational activities. Greater examination of such contention was not possible with the restricted access to these records.

A number of relevant stakeholders who were identified in addition to the interviewees were not willing to 'go on record'. Some observations noted were therefore without specific attribution to individuals. Whilst every endeavour was

made to capture the content during interviews, the reluctance of these individuals to be recorded meant that an increased reliance was placed on note taking and observation.

3.6.5 Software Applications as Supporting Tool Sets

The original intention was to use UciNet6 software application (Borgatti, Everett et al, 2007). The software tool relies upon the data captured in the network definition matrices to generate graphical representations of social networks. The tool provides functionality to calculate various network based measures such as node centrality. The software requires a level of training to ensure user familiarity with the functionality of the programme. In order to become totally familiar with the software application and its own limitations would have required dedicated time and effort in addition to the scheduled time for the study itself.

The decision to 'retire' specific 'tools' for network definition was taken when the actor data emerging from descriptions simply did not 'fit' with participants' or this researcher's understanding of actor network composition.

Consequently, the use of specific application software was discounted and the decision to use a Microsoft's Powerpoint was taken. This had the advantage that visual mapping was based on a shared understanding of icons. Its second advantage was the manipulation of images to depict actor configurations.

Thus Powerpoint was used to draw out and describe the resource network. This simplified the modelling process where explanatory icons were used. The identification of the components and relationships remained unchanged. The data capture templates and reference grids identified for use with UciNet were still applicable and were used regardless of the choice of tool set.

The choice of Powerpoint over UciNet6 precluded the specific ability to analyse the resource interdependencies. However, using Powerpoint enabled a more

meaningful graphical representation of the evolution of the BPRN to be shown over time.

Specific measures such as centrality within the specific resource network have limited relevance since the connectivity is limited to few additional nodes. Moreover, the tie dependency between actors within the network is more readily identifiable in the context of the business process. In addition, the use of Powerpoint enabled the identification of boundaries for actor types (for example, the technology) and the dependency type of relationship which existed through formal contracts (ie beyond a social relationship).

3.7 Research Process Summary

The methodological challenge researchers face is to demonstrate how theory seeking contributions are derived from the data obtained (Yin, 1994; Eisenhardt, 1989). In this exploratory study, a combination of specific research strategies was employed to view the BPRN transformation. The strategies – narrative, visual mapping and temporal bracketing (Langley, 1999) – fit together as shown in Figure 14: Research Strategies Summary below:

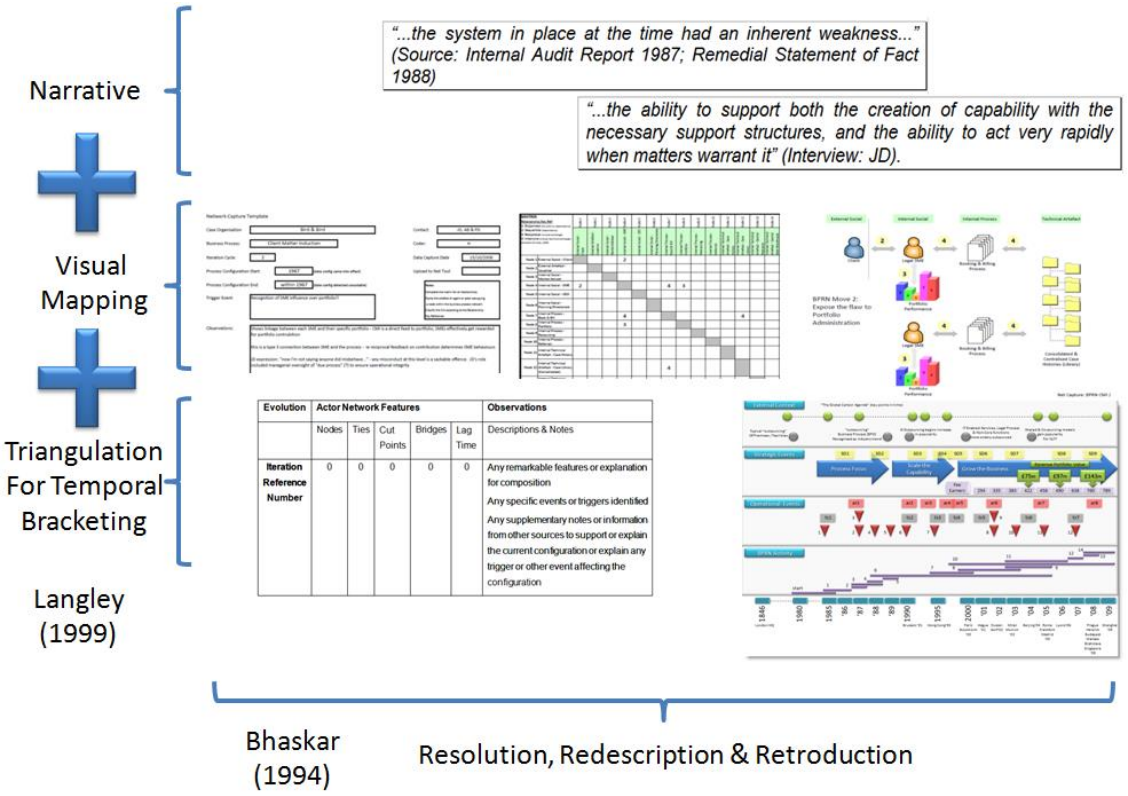


Figure 14: Research Strategies Summary

By employing the identified strategies, sense-making began. The strategies employed support 'resolution' – that is resolving an event or phenomenon to be explained into its component parts and their relations. In this exploratory case, the BPRN transformation was explored using MacKenzie's (1986) process description principles. By describing the BPRN using MacKenzie's (1986) description principles – describing the BPRN resources and their characteristics and their relationships – 'redescription' of the phenomena is possible. Furthermore, the redescription was informed by ANT and SNT. Redescription thus placed the BPRN transformation in theoretical context. Resolution and redescription are approaches defined by Bhaskar (1994) to make sense of the ways of acting of things.

3.8 Chapter Summary

In this chapter, the philosophy underpinning the selection of research strategies was discussed. The research strategies themselves were noted to inform the research method. The importance of a study protocol was noted as the research in its current form is limited to this single instance.

Next the research method was described in detail through a three stage set of activities. The BPRN evolution map was drafted as a start point for the Findings discussion in Chapter 4. Finally, the limitations of the methodology were discussed.

In the next chapter, the findings are described using the BPRN evolution map developed in the course of the research to frame the chapter.

4 FINDINGS

4.1 Chapter Introduction

The research question, “How do BPRN morph over time?” has several sub questions, specifically:

- What are the resources involved in performing the business process?
- How are these resources identified and described?
- What relationships exist between the resources in this network?
- How is this resource network changing and why?

To address the research question, this chapter is structured around the process map identified in Chapter 3 (please refer to 3.4.3.2 Developing the BPRN Evolution Map) and noted as Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map on page 110) developed from the data found in this study.

To begin, the organisational setting and specific business environment for First Legal Services (FLS) is described. Next, the BPRN of the Client Matter Induction (CMI) process is described. Then, using the BPRN evolution map, each layer of analysis is reported to describe the BPRN evolution.

The events, experiences and empirical data are documented to present the description of this multi-layered system (Bhaskar, 1994; Bhaskar, et al. 2010). Mechanisms and triggers for microstate morphing are identified. Finally the chapter concludes by presenting specific characteristics of BPRN transformation.

4.2 Describing Client Matter Induction as a Business Process Resource Network

CMI is one the most important processes for FLS. This process operates to accept client instruction, develop new subject matter expertise, and create

focused responses. This specific process was chosen from the 'sampling criteria interview' with JD and AB as detailed in Chapter 3 (please refer to Table 5: Research Target Sampling Criteria on page 82), the results of which were recorded in Appendix 1 (please see Table 34 Sampling Criteria Interview Decision Framework on page 303).

AB explained the rationale for selection:

"...[CMI is] our business development and take on process if you will. We rejigged that because the take on wasn't effective… That's changed in the last year or so. In fact, we've had to formalise that process more and more to ensure a referential integrity to prevent client conflict of interest" [1]

One of the selection criteria was the recognition of the requirement to change for a specific business process. Two triggers were identified from these statements:

- the process being manipulated to improve its effectiveness; and
- formalising the process to ensure referential integrity.

'Rejigging' - the term used by AB - the CMI process ensured that it operated in an optimal way for FLS. The findings presented in this chapter discuss how such 'rejigging' occurred in the CMI process. Since the CMI process was bound by FLS' business rules for governing the take on of client matters, the process was required to be consistent across its business operations. In addition, FLS was required by internal governance to ensure that when new client matters are taken on, that they were not in conflict with any other client matter. This study describes how this CMI process developed in terms of composition and configuration over time.

4.3 Describing the Resources of the CMI BPRN

In this section, the resources involved in performing the business process are identified and described.

The CMI process comprises a network of resources which act through relationships to deliver an outcome. These resources were identified by the interviewees in the course of discussion over the composition of the BPRN. The following table describes the types of resources engaged in the CMI process:

Resource Entity Type	**Descriptions agreed from the Interviews & Workshop Discussions**
External Social Actors	This represents a client or group of clients
External Artefact	This represents an 'Issuance'. This is typically a piece of legislation or formal documentation issued by a regulatory body which needs consideration and impact assessment for FLS to determine an appropriate response
Internal Social	This represents an internal human actor within the resource network. Examples of this include: Market Advisers, Legal Subject Matter Experts (and their social network through Practice coalition), Chief Executive Officer (CEO). It is also used to describe a human group which acts as a single entity but which nonetheless comprises human actors. Examples of this include: Planning Directorate *Researcher's Note: There is an issue of SCALE presented as there are single entities as well as group entities. The group acts as a single entity*.
Internal Process	This represents an identified internal process. There are a number of specific processes identified from the interviews. These include: *Booking & Billing (Book & Bill)* – the mechanism for reconciling client matters to effort expended *Portfolio Performance* – the collation of the revenue generation against multiple client matters provided through the Book & Bill process; this is the repository for the performance data which is ultimately published internally to support firm business development drive operational efficiency or detect unaddressed issues for development into service offers *Resourcing* – the mechanism for allocating SMEs to client matter and thus

	support resource planning against business requirement *Referrals* – the mechanism for validating client conflict of interest, and validation of client history *Researcher's Note: these are relational processes – it is the connectivity that is of interest and its exchange flows*
Internal Technical Artefact	This represents an identified internal technical artefact or group of the same types of artefact. This term is also used to describe a technical artefact which represents a specific technological system present within the resource network. These artefacts are identified from the interviews and include: *Case History* – the specific records database (paper based) for all client matters *Consolidated and Centralised Case Histories* - the client case library *Central Resource Administration System* – the application technology to support human resource management processes *Central Data Warehouse* – the information base into which all client matters were migrated; also the central point of enquiry for multiple processes where development of the data structures now facilitates greater use of the technical asset *Researcher's Note: There is an issue of SCALE presented as there are single entities as well as group entities. Grouping technologies or artefacts presents issues of scale.*

Table 15: The CMI BPRN: Node Type Identification Reference

For ease of illustration, each resource network entity type is denoted by a particular icon as described in Table 9: Network Definition: The Icon Set Explained. The following schematic in Figure 15: The Simplified CMI Business Process Resource Network (shown below) shows a simplified network model of the CMI process where a single client acts in a relationship with a single legal subject matter expert:

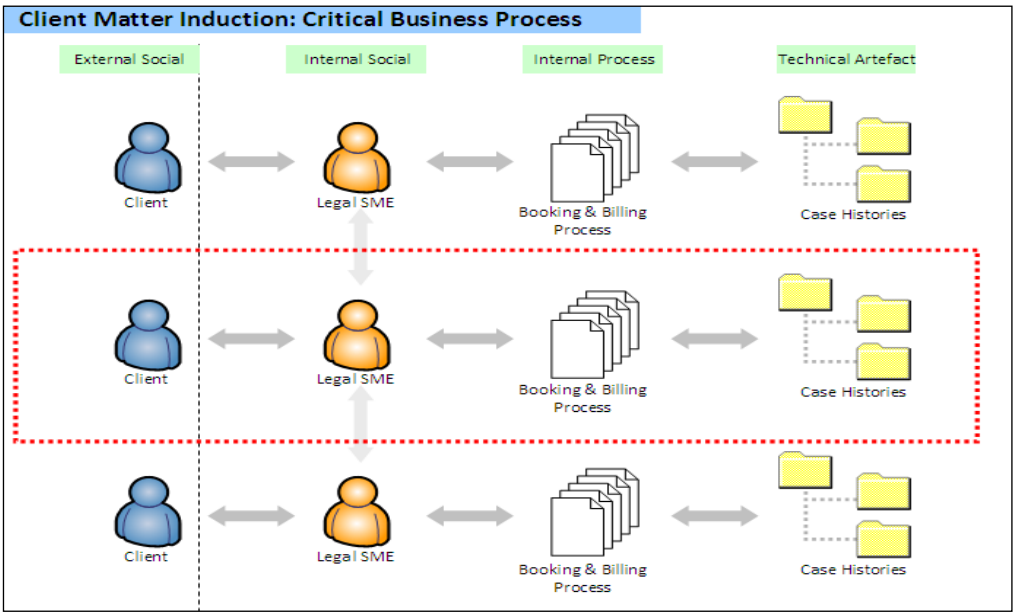


Figure 15: The Simplified CMI Business Process Resource Network

The figure above depicts a single instance of client matter induction is denoted by the process boundary (shown by the dotted boundary line). Other instances of client matter induction are shown in order to highlight the requirement for referral to other Legal SMEs and to Case Histories. This requirement for referral addresses the issue of conflict of interest where client matters may be turned away because of an identified conflict.

4.4 Examining the Relationships within the CMI BPRN

In this section, the relationships between the resources in the network are examined and described.

The relationships between the actors in the network are shown with arrows (please refer to Table 9: Network Definition: The Icon Set Explained). Grandori and Soda (1998) define these relationships by describing their information exchange and timing constraints. Using the typology described in Chapter 3 (see Table 35: Business Process Resource Network Relationship Identification in Appendix 2 on page 306), the following table (Table 16: the CMI BPRN

Relationship Identification) describes these values and shows examples of each type of relationship identified within the network:

Type Category	Example from the BPRN
I – Disjointed	This type of relationship exists where Legal SMEs make enquiries to the Portfolio. These are typical of “ad hoc” information seeking requests.
II – Sequential	This type of relationship exists where direct requests are made between Clients and SMEs. The SME can only act upon receipt of the request – hence the timing dependency.
III – Reciprocal	The Booking & Billing process makes use of specific information content for recording in the Portfolio. This serves to generate fees (revenue and income). The Portfolio acts as a performance management system. Information in this system informs decision making. Operational adjustments to the process or to the practices carried out in the process may be made as a result of the information in this system.
IV – Intensive	This type of relationship exists where both the information content and the timing of the information exchange are important. For example: the Legal SME information exchange with the Book & Bill process is important and necessary to report client matter induction (and thus show income). The reciprocation of matter resolution is equally important because this confirms the revenue. For this process to operate effectively, there is an implied real-time information flow. Process adjustment is most likely where the information content exchange and timing of exchange do not meet expectations

Table 16: the CMI BPRN Relationship Identification

There are examples of each type of relationship present in the CMI BPRN. For example, ‘reciprocal’ relationships exist where other processes (such as ‘Book and Bill’) are exchanging bi-directional information.

4.5 Developing the CMI BPRN Evolution Map

In this section, the resource and relationship changes are mapped out over time. To answer the question, “how is the BPRN changing and why?”, the contextual data is placed within the map.

To provide the contextual setting for this study, the time line for the CMI process began in 1846 with the London office launch. However, in this study, the evolutionary clock starts to tick in the 1980’s. Using the narrative and visual mapping strategies (Langley, 1999), the storyline of the business process was developed from interview data, audit reports, strategy documentation, internal briefings and the published accounts. The research strategies summarised in Figure 14: Research Strategies Summary in Chapter 3 (page 120) shows how the research activities led to the development of the BPRN evolution map.

The documentation data sources are recorded in Table 11: Documentation Data Sources on page 101. Workshop and interview data was compared with these data sources in order to ensure reliability. Key events and activities were identified from this process in order to generate a consolidated lifeline of events for the CMI process. These events are shown in the BPRN evolution map below:

There are three specific features noted in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map (refer to page 110). Firstly, the layer “Strategic Events” identified and represented the long term business drivers of FLS. The business drivers provide a context against which decisions and resource reconfigurations are made. Rindova and Kotha (2001) note such drivers appearing to be evident in the time frame as ‘strategic thrusts’.

The layer also included the reported financial data for three years. The reported financial data (the ‘portfolio’ – represented in the diagram under the Revenue Portfolio Values) are used by the directors to demonstrate the success of the fee earners in securing revenue.

Secondly, the layer “Operational Events” identifies specific events or decision points which influence the behaviour within the CMI BPRN. The decision points are drawn from FLS’ published reports for Audit and Technology. Data is also drawn from the Strategy level reports (shown in the strategic events layer). Typically these events and decisions result in connection changes.

Thirdly, the Operational layer denotes the longevity of BPRN configuration. It also shows the ‘overlapping’ nature of BPRN behaviour as resources are engaged in multiple events.

Also shown are the External Environment specific points of note. These are included to bring insight into the relationship between BPRN activity and external influences.

The findings from this study are explained in the context of the events identified in the time line described by the BPRN evolution map. The findings trace the evolution of the resource configurations for the CMI process between 1985 (taken as the start point) and 2009. The specific resources engaged in the CMI process are identified from the network definition matrices and interview data. Figure 16: The CMI BPRN Configuration: 1985 and 2009 (below) shows the configuration of the resources in the CMI process at the start point in 1985, and the configuration in place as at 2009:

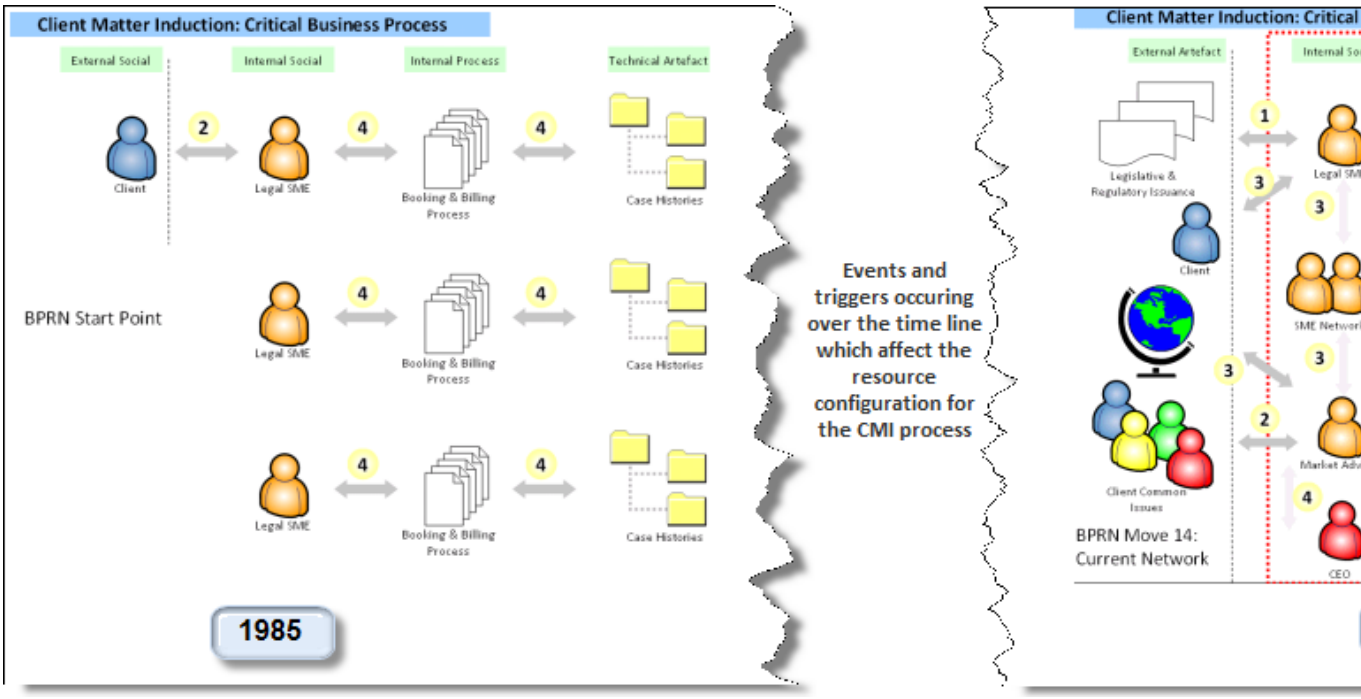


Figure 16: The CMI BPRN Configuration: 1985 and 2009

The changing configuration between 1985 and 2009 is noted through a number of operational adjustments – either through BPRN composition or in resource relationships. There is a figure for each change in the BPRN noted between the dates shown in Figure 16: The CMI BPRN Configuration: 1985 and 2009. Every change has its own "BPRN configuration" – each BPRN change is described below in 4.5.2 Layer 1: BPRN Activity. The transformation of the resource configurations between these dates is described by [2] as an "ecological adaptation":

"It's an ecological adaptation of both our human network and our technology components… they evolve to meet our changing business needs. Sometimes it's not obvious if a process himself doesn't change – but the technical components or the information's routing does..." ~ [2]

4.5.1 CMI's Ecological Adaptation: Dealing with Everything

FLS describe the last 30 years or so as having had to…

"…build our systems and processes to deal with everything that is thrown at us…the thing is there are lots of players out there. I mean they do the same type of things we do. And it's not about being bigger better faster more anymore. No I don't think so. No what I think it comes down to is how we turn it round. Yes we have to act alongside these other firms, but you know they have their way of doing business and we have ours" ~ [3]

FLS build their systems and processes to deal with the way in which they conduct their business. FLS also recognise that other firms in the industry behave similarly. Dealing with everything happens as a result of keeping a "weather eye" on the activity present in the FLS business environment.

The rest of this chapter is structured to provide insight into the "ecological adaptation" of the CMI BPRN. Using the framework of the causal map (Snook, 2000), the discussion is framed around the 'layers' of the organisation. This in

turn supports the discussion for the identification of mechanisms through description of the CMI BPRN as a laminated system (Bhaskar, et al., 2010).

The laminated system construct considers seven potential 'levels of operation' at which underlying mechanisms may operate. Specifically, these are:

i. the sub-individual psychological level (for example: the intention of an individual)
ii. the individual or biographical level (for example: actions of single actor)
iii. the micro-level studied (for example: actions of an actor group)
iv. the meso-level (for example: the relations between functional roles such as capitalist and worker or MP or citizen)
v. the macro-level (for example: understanding of the functioning of whole societies or their regions)
vi. the mega- level of the analysis of whole traditions and civilisations,
vii. the planetary (or cosmological) level concerned with the planet (or cosmos) as a whole

As with Snook's (2000) approach, the laminated system (Bhaskar et al, 2010) is understood 'from the lowest to the highest' levels. The following sections summarise the 'micro' to the 'macro' activity.

4.5.2 Layer 1: BPRN Activity

The first layer of description concerns the BPRN configurations and their durations. For reference, this is shown below in Figure 17: The CMI BPRN Activity: Configurations & Durations (1980 through 2009):

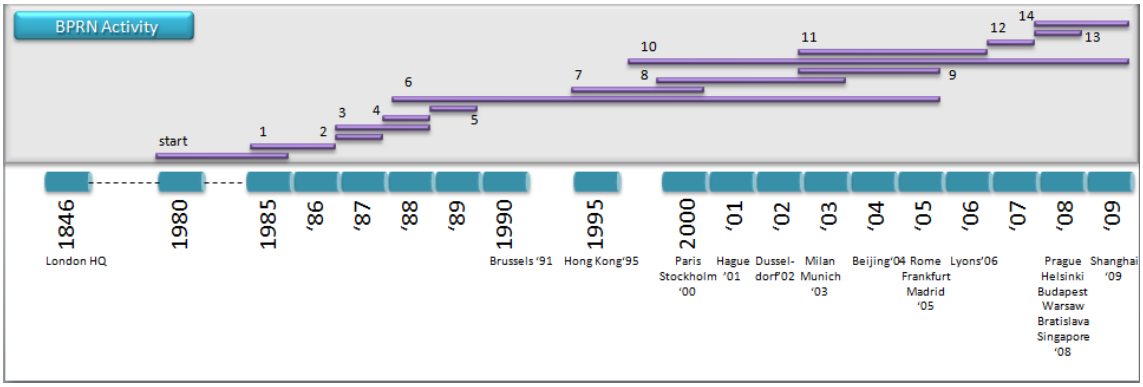


Figure 17: The CMI BPRN Activity: Configurations & Durations (1980 through 2009)

In network terms, the CMI BPRN exhibits fifteen configurations between 1985 and 2009 ("Start" through to "14" as shown in Figure 17 above). By way of explanation, the 'configuration' of the BPRN is the arrangement of actors with defined relationships which uphold the logic of the business process. Each configuration identified is discussed in the following sections of this chapter.

Some of the BPRN changes "overlap", meaning that data shows activity concerning the resources or their relationships within the time frame. This has two implications:

Firstly, that a change was detected in that period of time, but it is unknown whether this was an event whose duration was short-lived (or not);

Secondly, that change events happen to resources and relationships simultaneously.

In the first instance, it is not possible to detect the exact point in time at which change starts or stops – only that change occurred. Unless there are specific activities identified from other 'layers' (such as audit report findings for example), then time and timing are indeterminate. Where changes are noted to the same set of resources, arguably this constitutes continuous operational adjustment (Marshak, 2004) and continuous improvisation (Orlikowski and Hofman, 1997).

In the second instance, changing resources and relationships simultaneously indicated events or activities affecting types of resources at the same time. For example, FLS' organisation wide data warehouse strategy affected case libraries and information routing until all the cases were migrated so a single system.

Using the evidence triangulation table identified in the Methodology (see Table 12: Evidence Triangulation Framework on page 106) the BPRN in place for each configuration is described. Each change that was noted for the BPRN was described with observations, interview notes and data from the documentation sources.

The BPRN for every configuration identified is drawn out and depicted, based on the Observation Page (page 1), the Network Definition Matrix (page 2), and the Actor Network drawn as a result of interpreting the matrix for each iteration. Each iteration is represented by these 3 pieces of information.

Start Position

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	Start	Data Capture Date	15/10/2008
Process Configuration Start:	pre 1980 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	1985 (date config detected unsuitable)		
Trigger Event:	None - this is how it took place for YEARS!		

Notes:
Complete the matrix for all relationships
Name the artefact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Simplest network construct captured here but this doesn't seem to allow for multiple clients all contacting specific SMEs
All SMEs would go through Book & Bill to check for case history with client - also facilitates the conflict of interest piece - except that this isnt joned up as each SME would have to contact another SME to validate any cross-SME issues

Alternative is to provide central reference point...

Check back to what JD said about the records

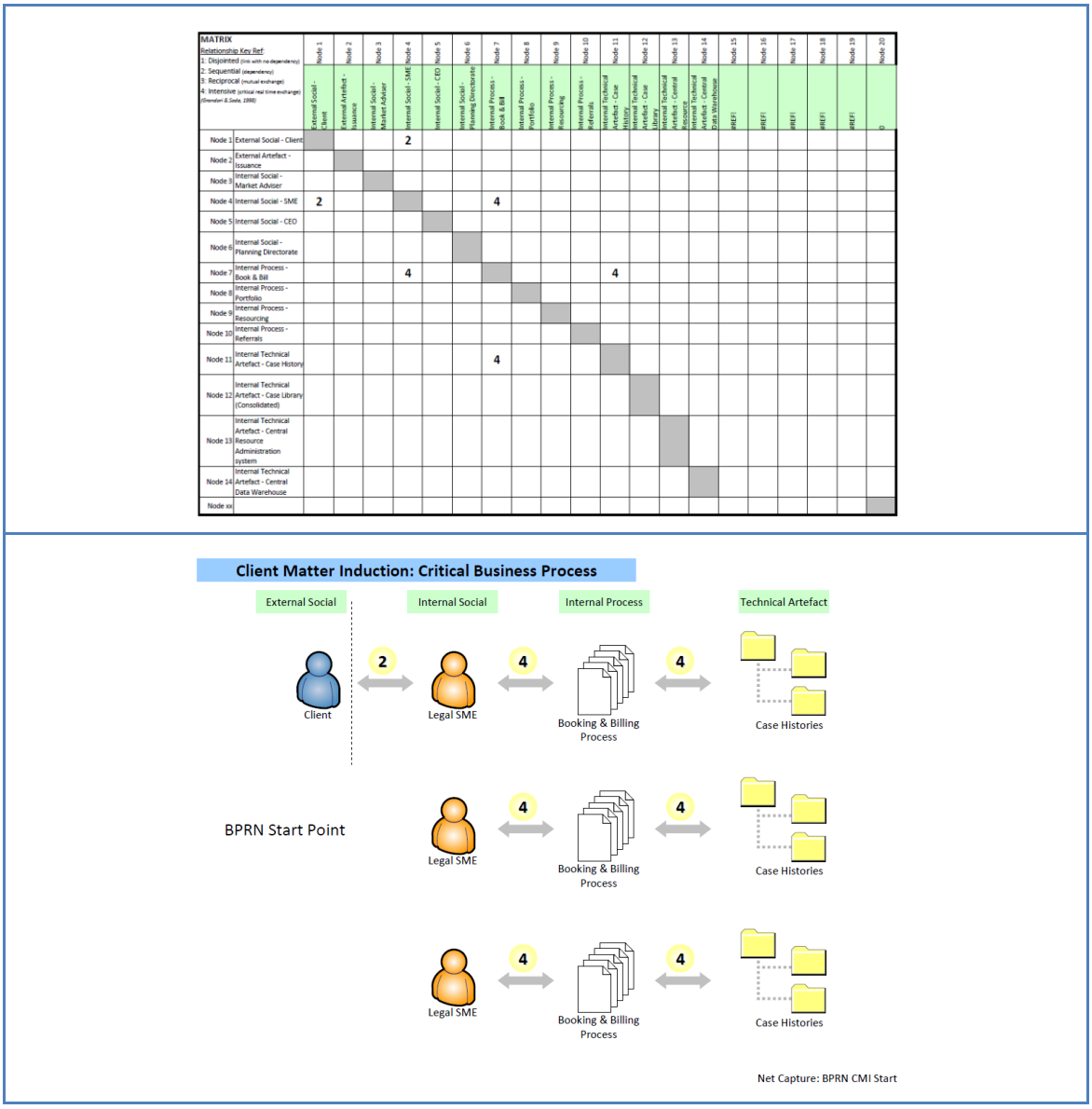


Figure 18: Client Matter Induction Business Process Resource Network Configuration (Start)

The figure above shows an external client (a social actor) exchanging information that is not time critical or content-critical with a legal subject matter expert (also a social actor). A distinction is drawn to identify the external actor form the internal actor. The Legal SME is obliged to log the client matter through an internal process (booking & billing) in order to register the matter. This exchange of information is time and content critical as fees can be earned from the point of acceptance. There is an additional integrity referral process to

the case history files in order to check for any conflicts of interest or for previous cases which relate to the matter. Without this referral, the matter may be contravening business process integrity and the business requirements of the firm.

There are there legal subject matter experts shown in the above figure. The three figures represent there instances of how this process operates. Each instance of the process is independent from any other yet the same exchange relationships are carried out. There are instances also of the same process and technological actors present in each operation of the business process. The following diagrams illustrate the transformation of this business process resource network.

Every specific change identified change in the BPRN network configuration is noted within the evolutions identified in the following figures. Every evolution is plotted in the CMI Process Evolution Map (found in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map on page 110). Evolution diagrams are noted below:

Evolution 1

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	1	Data Capture Date	15/10/2008
Process Configuration Start:	1985 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	1987 (date config detected unsuitable)		
Trigger Event:	Recognition of Book & Bill cross referencing dependency on SMEs & inefficent per-SME storage of case history		

Notes:
Complete the matrix for all relationships
Name the artefact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship Key Reference

Observations:

Shows the change tpo the centralised case library - note I am not talking about the process of migrating the records themselves, I only need to recognise this happned and it's the ARTEFACT at the node network which I need!!

So, the component node has changed in scale from single case history file to collation of history files

each SME cantherefore independently ise the libary as the cross reference without having to have and dependency on each other

Does this speed up the process? removing the dependency on any social interaction to provide cross reference yes; centralising the records to facilliate multiple and simultaneious access by all SMEs without separate chek processes, yes.

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Grendon & Soda, 1998)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library	Node 13 Internal Technical Artefact - Central Resource	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO																				
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4								4								
Node 8	Internal Process - Portfolio																				
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)							4													
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse																				
Node xx																					

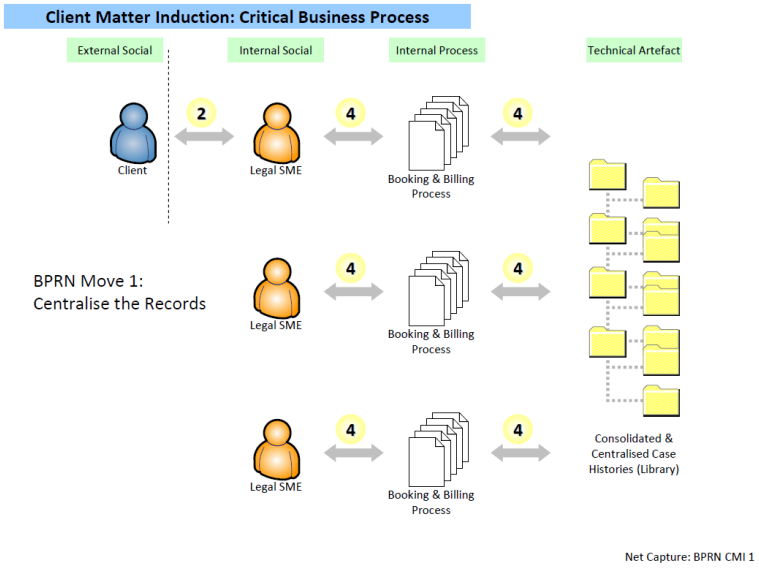


Figure 19: Client Matter Induction Business Process Resource Network Configuration (1)

Evolution 2

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	2	Data Capture Date	15/10/2008
Process Configuration Start:	1987 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	within 1987 (date config detected unsuitable)		
Trigger Event:	Recognition of SME influence over portfolio!!		

Notes:
Complete the matrix for all relationships
Name the artefact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Shows linkage between each SME and their specific portfolio - CMI is a direct feed to portfolio; SMEs effectively get rewarded for portfolio contrubition

this is a type 3 connection between SME and the process - ie reciprocal feedback on contribution determines SME behaviours

JD expression: "now I'm not saying anyone did misbehave..." - any misconduct at this level is a sackable offence. JD's role included managerial oversight of "due process" (?) to ensure operational integrity

MATRIX
Relationship Key Ref
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Thorelli & Sade, 1990)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library	Internal Technical Artefact - Central Resource	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4	3												
Node 5	Internal Social - CEO																				
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4								4								
Node 8	Internal Process - Portfolio				3																
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)							4													
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse																				
Node xx																					

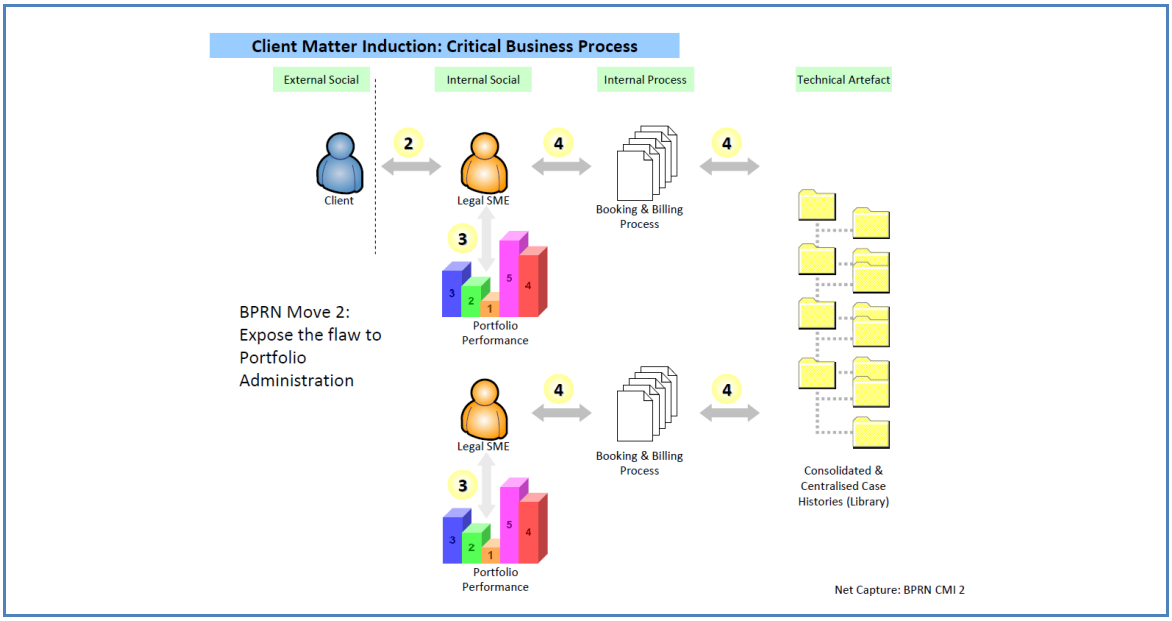


Figure 20: Client Matter Induction Business Process Resource Network Configuration (2)

Evolution 3

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	3	Data Capture Date	15/10/2008
Process Configuration Start:	1987 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	by 1988 (date config detected unsuitable)		
Trigger Event:	Internal audit spotting opportunity for exploiting direct SME influence over portfolio		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship Key Reference

Observations:

Disconnect Portfolio Administration from SME; Reconnect process to B&B; SME dependence reduced

SME to portfolio is now only a 1 in tie terms is they get to know abut contribution effectiveness through the integrity of the book & bill process to demonstrate contribution, NOT through their direct link. The cross reference book n bill to case history provides referential integrity

It is replicable across each SME practice but the process linkage relies on the case library

Does this mean the process step is the critical give/get point? There is no information flow supported without the case library - critical asset - this means that everyone joins to it & that the connection is critical

The libary is effectively an information sink for all incoming new matters; extracts only on query

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Crandall & Seale, 1988)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library	Node 13 Internal Technical Artefact - Central Resource	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4	1												
Node 5	Internal Social - CEO																				
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4				3				4								
Node 8	Internal Process - Portfolio				1			3													
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)							4													
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse																				
Node xx																					

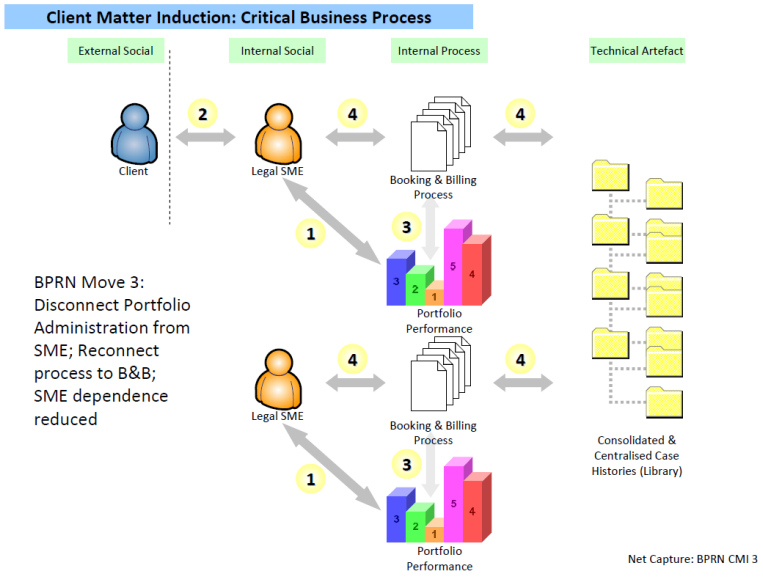


Figure 21: Client Matter Induction Business Process Resource Network Configuration (3)

Evolution 4

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	4	Data Capture Date	15/10/2008
Process Configuration Start:	1988 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	1988 (date config detected unsuitable)		
Trigger Event:	Internal audit compliance: remove the SME control over the portfolio(!)		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Financial integrity needs to be underwritten by CFO; tie between SME & Book and Bill becomes MORE critical as they cant now influence the reported figures EXCEPT thru the book process, which has to have the referential integrity to the case history

this is scaled across all SMEs ie single process is critical node

also means CEO can tell exactly who is booking against what, and what the take on rate is....

MATRIX

Relationship Key Ref
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Grandori & Soda, 1995)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library (Consolidated)	Internal Technical Artefact - Central Resource Administration system	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								2												
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4				2				4								
Node 8	Internal Process - Portfolio					2		2													
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)							4													
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse																				
Node xx																					

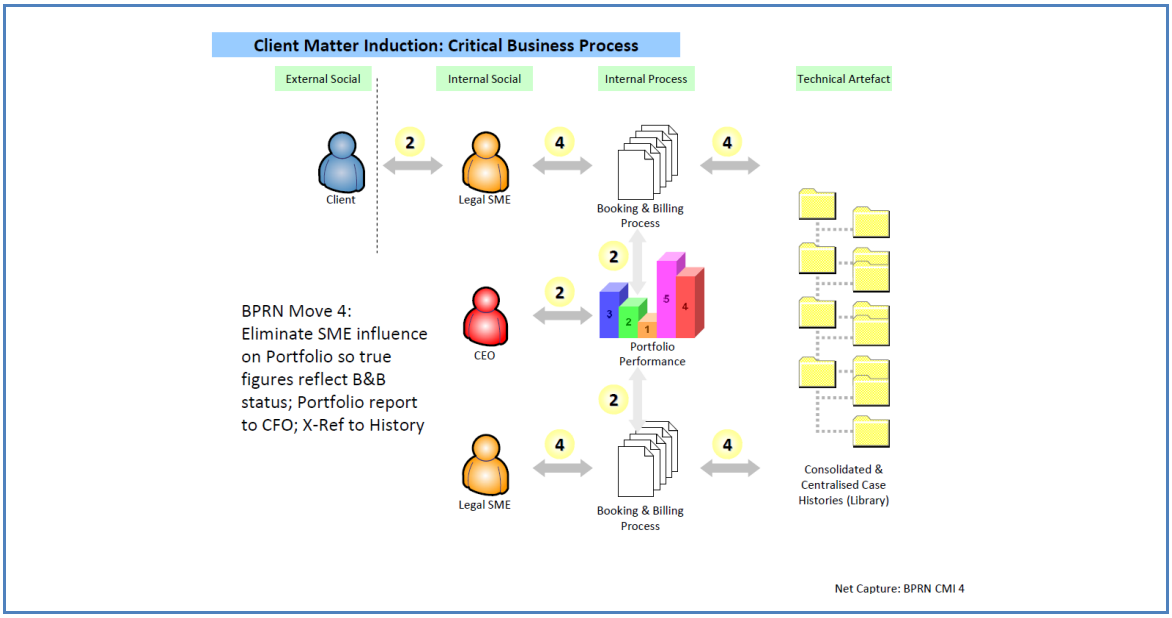


Figure 22: Client Matter Induction Business Process Resource Network Configuration (4)

Evolution 5

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	5	Data Capture Date	15/10/2008
Process Configuration Start:	1989 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	1990 (date config detected unsuitable)		

Trigger Event: CEO wanted to know about Profitability ie whether the take one process is effective in realtion to the cost of provision of resource/legal SME etc vs. value/client

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

2 things going on now - process efficiency measures in relation to portfolio ie what does it cost to win the business vs value of business itself

Only mentioned in passing as the reosuce admin system, but I think this is one of the underpinnng technical artifacts to support the process layer

2 points of reference now in effect - the resource adminsystem + case histories

Resourcing process provide reference to SMEs and support teams who book & bill to client case (hence history reference); also provides resource directorate with view on utilisation across resource pools; also provides gap spot onn shortfall in practice areas/vacancies etc

Cost of resource againts value of book & bill - think this is a margin indicator

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Brandon & Soda, 1988)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library	Node 13 Internal Technical Artefact - Central Resource	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								4												
Node 6	Internal Social - Planning Directorate									3											
Node 7	Internal Process - Book & Bill				4				3	3			4								
Node 8	Internal Process - Portfolio					4		3													
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)							4													
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse																				
Node xx																					

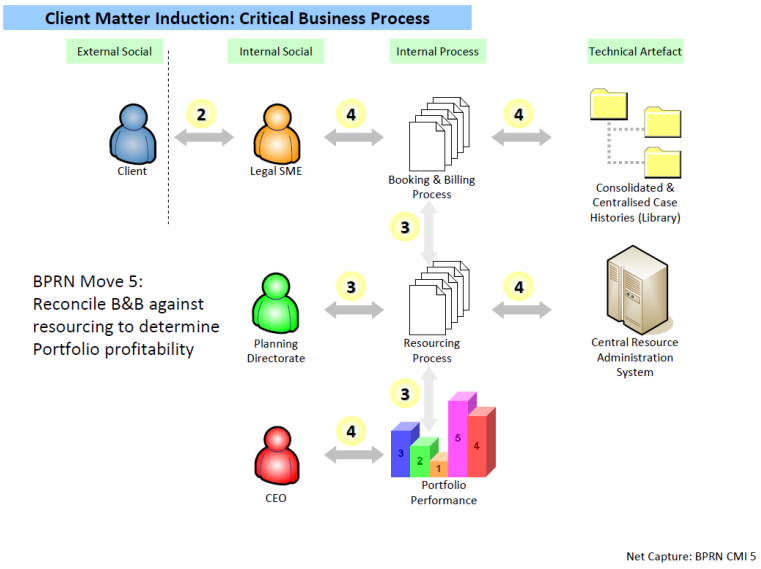


Figure 23: Client Matter Induction Business Process Resource Network Configuration (5)

Evolution 6

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	6	Data Capture Date	15/10/2008
Process Configuration Start:	1987 (date config came into effect) long timeline!!	Upload to Net Tool	
Process Configuration End:	2005 (date config detected unsuitable)		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Trigger Event: Central Data Warehouse project completion (case history) - 10yd old data strcutures not sufficient to run expanding business

Observations:

CDW looks like a straight tech implementation project with migration of data (10 years+ paper based library case files!) to replace the libaray with electronic version (very simple description but that's the gist)

this is a node type swap out/conversion - started project idea inception 1987; funding in 1990; business analysis complet 92, RFP process 1993, solution build 94, solution statr migration 1995; Lodon complete 98; global complete 2003

technology layer starting to become the underpinning information critical services layer... BUT this does provide a greater scalable solution through eg distributed systems so locally hosted data history is available in each office, but global data can be run against everywhere

technology platforms as a base layer... commonality of systems simplifies operational support requirements

any new offices can "plug in" to use or connect to exploit the resources
everyone has a common process to bok against the CDW

MATRIX

Relationship Key Ref
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Grandori & Soda, 1995)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library	Internal Technical Artefact - Central Resource	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								4												
Node 6	Internal Social - Planning Directorate									3											
Node 7	Internal Process - Book & Bill				4					3				4	4						
Node 8	Internal Process - Portfolio					4															
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system							4													
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx																					

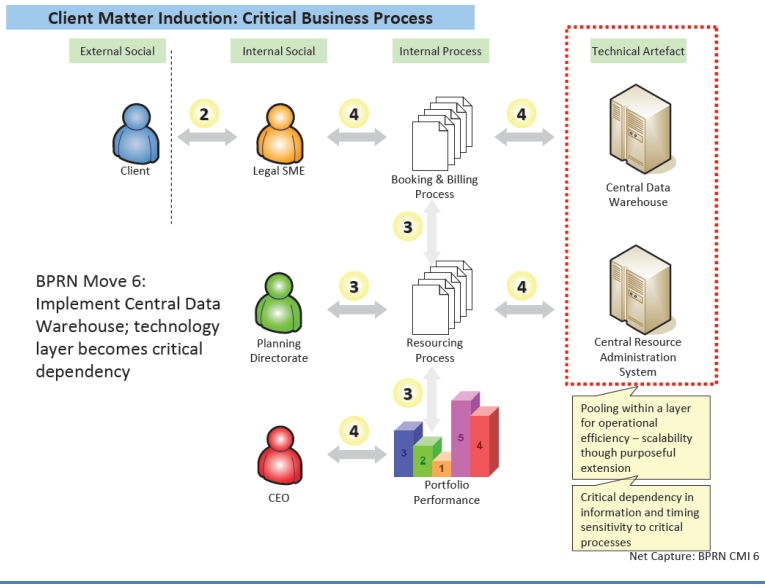


Figure 24: Client Matter Induction Business Process Resource Network Configuration (6)

Evolution 7

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	7	Data Capture Date	15/10/2008
Process Configuration Start:	1995 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2000 (date config detected unsuitable)		
Trigger Event:	Consolidation of technology layer		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

No network thigns change, only the technology layer itself as the underpinnng business engine

All technologes are grouped in opertional terms for more effective support models

All systems admin is centralised so a common function supports all business processes

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Grandori & Soda, 1995)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library (Consolidated)	Node 13 Internal Technical Artefact - Central Resource Administration system	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								4												
Node 6	Internal Social - Planning Directorate									3											
Node 7	Internal Process - Book & Bill				4					3				4	4						
Node 8	Internal Process - Portfolio					4															
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system							4													
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx																					

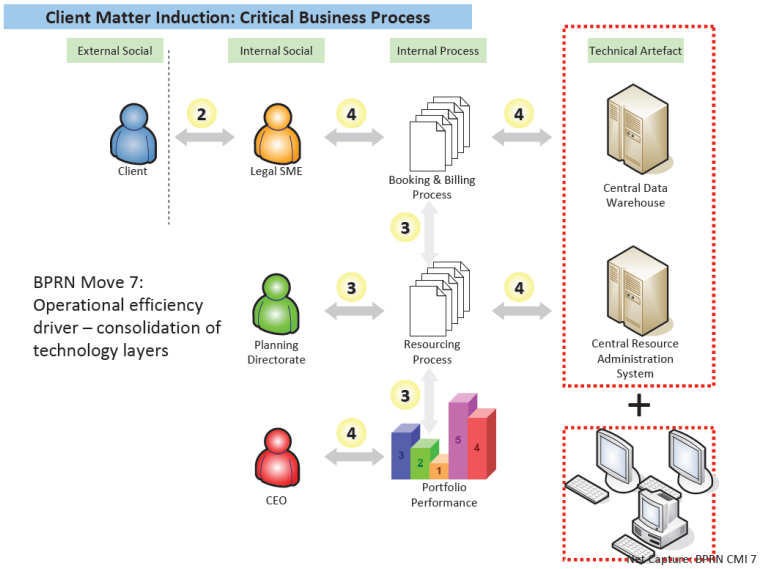


Figure 25: Client Matter Induction Business Process Resource Network Configuration (7)

Evolution 8

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	8	Data Capture Date	15/10/2008
Process Configuration Start:	2000 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2002 (date config detected unsuitable)		
Trigger Event:	decision to outsource non core business		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Same as last time - no network moves, only CEO/COO decisions to outsource delivery and support of platforms and technology bases- take out TCO (supposed to - didnt see the business case)

asset control through 3rd party

What does this do to the network....

Stcuture doesn't change. The dependency becomes "formalised" through a specific contract. Asset control and ability to scale has to be done in conjunction with a 3rd party

"but this does not work for me" - Philippe

MATRIX

Relationship Key Ref:
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Thorndon & Seale, 1998)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library (Consolidated)	Internal Technical Artefact - Central Resource Administration system	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								4												
Node 6	Internal Social - Planning Directorate									3											
Node 7	Internal Process - Book & Bill				4					3				4	4						
Node 8	Internal Process - Portfolio					4															
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system							4													
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx																					

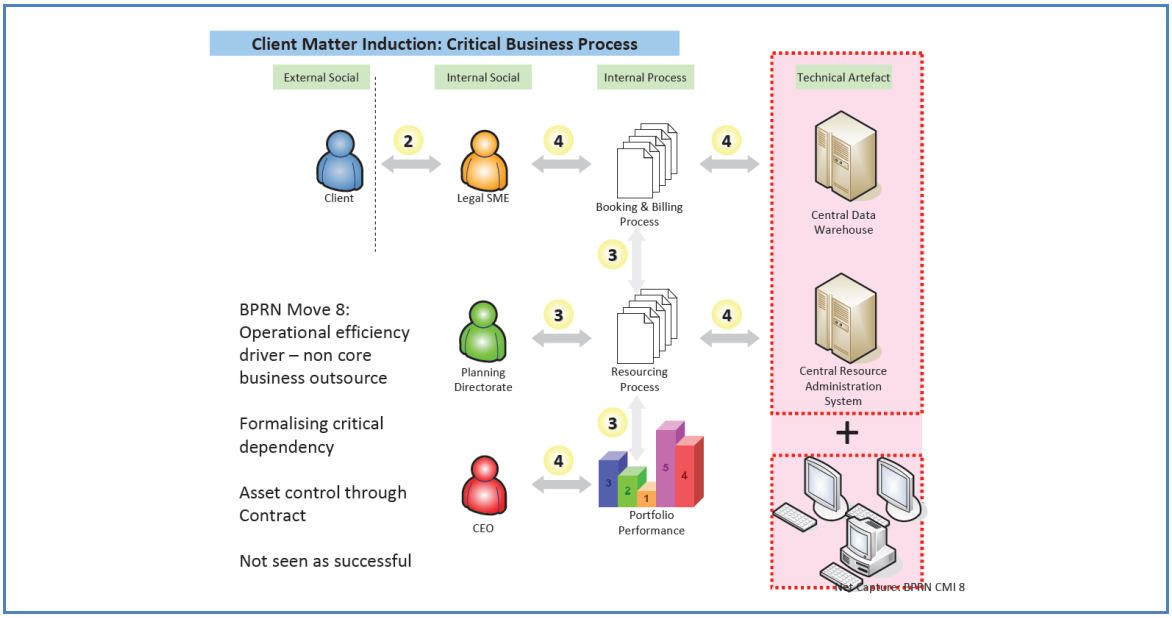


Figure 26: Client Matter Induction Business Process Resource Network Configuration (8)

Evolution 9

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	9	Data Capture Date	15/10/2008
Process Configuration Start:	2003 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2005 (date config detected unsuitable)		
Trigger Event:	Bring it Back In! decision to re-instate business critical dependencies in tech layer as in house control		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Same as last time - no network moves

So net structure doesn't change. The dependency is still business critical but managed in house.

Asset control and ability to scale brought under direct control so business drivers for expansion have direct linkage

Coincides with P joinigng London; decision to being iback in

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Frendorf & Soda, 1998)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library	Node 13 Internal Technical Artefact - Central Resource	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 0
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser																				
Node 4	Internal Social - SME	2						4													
Node 5	Internal Social - CEO								4												
Node 6	Internal Social - Planning Directorate									3											
Node 7	Internal Process - Book & Bill				4					3				4	4						
Node 8	Internal Process - Portfolio					4															
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system							4													
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx																					

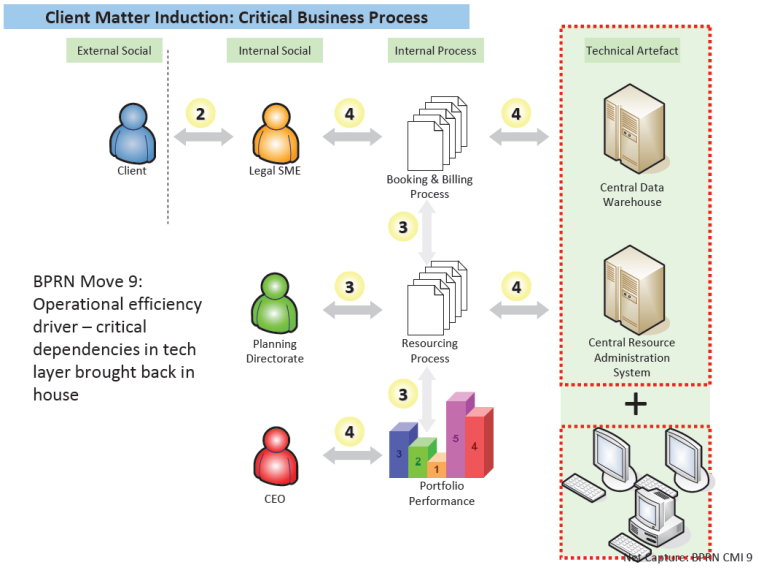


Figure 27: Client Matter Induction Business Process Resource Network Configuration (9)

Evolution 10

Network Capture Template

Case Organisation	[redacted]	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	10	Data Capture Date	15/10/2008
Process Configuration Start:	1998 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	till in effect 200 (date config detected unsuitable)		
Trigger Event:	Extra Process Joins- London from 1998 to CDW then rest of world		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

CDW and CRAS provide business critical data to multile processes- process layer expands way beyoond CMI

same critical dependencies exist but now there are more processes using the same tech layer; process steps provide join points to the technology - no network moves as such BUT....

If any other process are conected to CMI, eg Contracts, then thats 3 processes relying on 1 layer, 2 on CDW 1 on CRAS

Disconnecting process at process step level is tricky if the process step relies on that critical info exchange...

Does this mean "get your processes to a point where any realted process can plug in" or does it mean "if all processes are linked in some way through infromaiton exchange, to change one step means to change all steps dependent on that flow?"
this means its the INFO flow NOT the process thats critical....

MATRIX

Relationship Key Ref
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Thorelli & Sade, 1990)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library	Internal Technical Artefact - Central Resource	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	Internal Process: Contracts et al
Node 1	External Social - Client				2																
Node 2	External Artefact - Issuance																				
Node 3	Internal Social - Market Adviser							4													
Node 4	Internal Social - SME	2							4												
Node 5	Internal Social - CEO									3											
Node 6	Internal Social - Planning Directorate									3				4	4						2
Node 7	Internal Process - Book & Bill				4																
Node 8	Internal Process - Portfolio					4															
Node 9	Internal Process - Resourcing						3	3													
Node 10	Internal Process - Referrals																				
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system							4													
Node 14	Internal Technical Artefact - Central Data Warehouse							4													4
Node xx	Internal Process: Contracts et al							2							4						

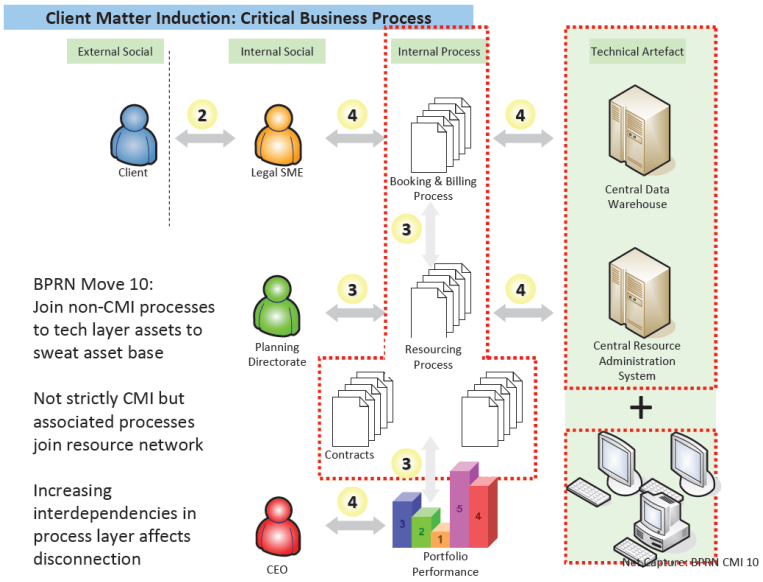


Figure 28: Client Matter Induction Business Process Resource Network Configuration (10)

Evolution 11

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	11	Data Capture Date	15/10/2008
Process Configuration Start:	2004 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2007 (date config detected unsuitable)		
Trigger Event:	External legislation issue		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying a node within the business process network
Classify the link according to the Relationship Key Reference

Observations:

Now this is starting to happen more and more - the Market adviser picks up the legal output or the implication of legal output and he begins a network buuilding process

there are 2 things going on in effect: firsltyt the sequential enquiryt through referrals to see whats been going on previously (hence link to CDW for hisroy on who, when, where etc) and to portfolio to see if its a worth while piece of business

seconfdly, the SME netwrk will generate itself where John grabs the practice lead (eg Anna) to "spread the word" - often results ina splinter group for thatr specific topic

H REMEMBER TIHS: formation of cliques and coalitions to solve problems

Internal Social SME cant have a relationship with itself, but could if it was extended as scale... its the social network formation!

MATRIX Relationship Key Ref: 1: Disjointed (link with no dependency) 2: Sequential (dependency) 3: Reciprocal (mutual exchange) 4: Intensive (critical real time exchange) (Frondorf & Soda, 1998)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library	Node 13 Internal Technical Artefact - Central Resource	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 Internal Process: Contracts et al
Node 1	External Social - Client																				
Node 2	External Artefact - Issuance			2																	
Node 3	Internal Social - Market Adviser		2		3						2										
Node 4	Internal Social - SME			3																	
Node 5	Internal Social - CEO																				
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill																				
Node 8	Internal Process - Portfolio										3										
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals		2						3						4						
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse										4										
Node xx	Internal Process: Contracts et al																				

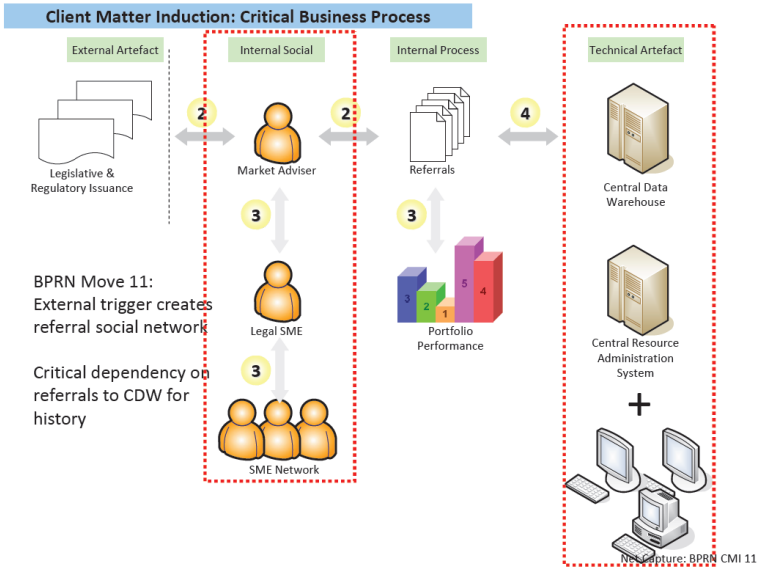


Figure 29: Client Matter Induction Business Process Resource Network Configuration (11)

Evolution 12

Network Capture Template

Case Organisation	-	Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	12	Data Capture Date	15/10/2008
Process Configuration Start:	2007 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2008 (date config detected unsuitable)		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Trigger Event: External legislation issue and its link to Portfolio Growth - ie is is worth it

Observations:

this is where the take on by the SME net delivers any portfolio benefit

Book & Bill becomes critical as the internal process- additional critical dependence on the tech layer esp. CDW

Theres a couple of feedback loops now appearing in this formation - CEO to Market man to steer SME net based on portfolio; SME net success shown in portfolio via Book & Bill

ties are reciprocal or intensive

market man is COO too so CEO intensve exchange is prob direct interchange of desired action...

MATRIX

Relationship Key Ref:
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real time exchange)
(Ovretveit & Sodia, 1998)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case	Internal Technical Artefact - Central Resource	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	Internal Process: Contracts et al
Node 1	External Social - Client				3																
Node 2	External Artefact - Issuance				1	4			3												
Node 3	Internal Social - Market Adviser		3	1				4			3										
Node 4	Internal Social - SME			4					4												
Node 5	Internal Social - CEO																				
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4				3		3				4						
Node 8	Internal Process - Portfolio			3		4		3													
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals				3			3													
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx	Internal Process: Contracts et al																				

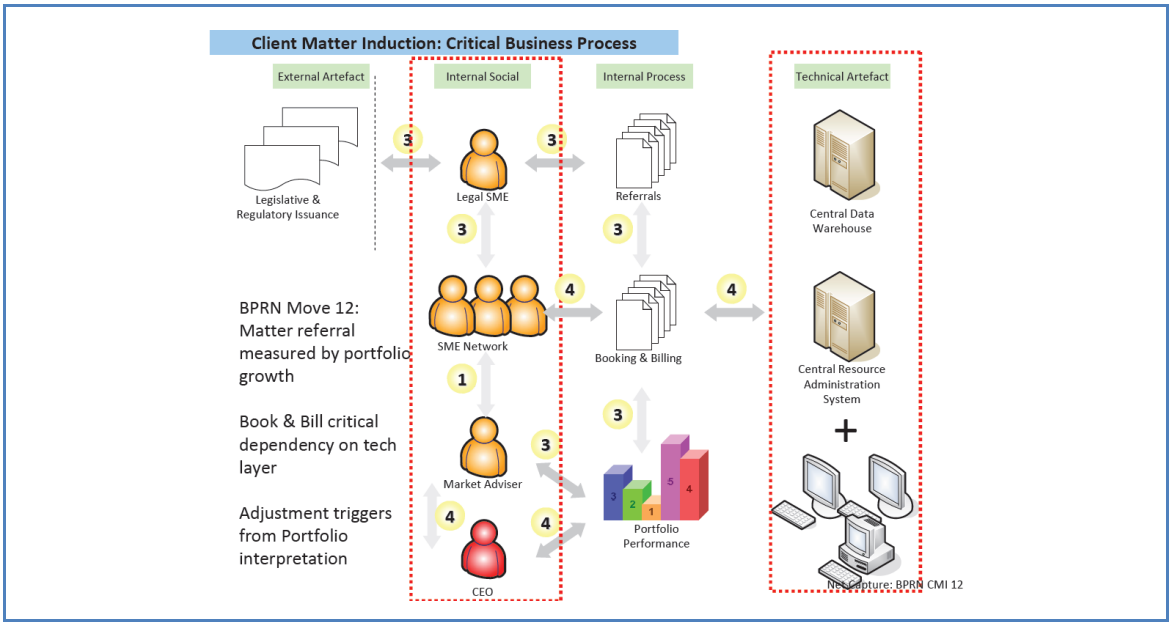


Figure 30: Client Matter Induction Business Process Resource Network Configuration (12)

Evolution 13

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	13	Data Capture Date	15/10/2008
Process Configuration Start:	2008 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	2008 (date config detected unsuitable)		
Trigger Event:	portfolio expansion		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Portfolio growth direct link to this methodof take on

prob where JD talks about speed of reaction for this process to be validated - 4 weeks for transation agreement take on

MATRIX Relationship Key Ref: 1. Disjointed (link with no dependency) 2. Sequential (dependency) 3. Reciprocal (mutual exchange) 4. Intensive (critical real time exchange) (Grandori & Soda, 1995)		Node 1 External Social - Client	Node 2 External Artefact - Issuance	Node 3 Internal Social - Market Adviser	Node 4 Internal Social - SME	Node 5 Internal Social - CEO	Node 6 Internal Social - Planning Directorate	Node 7 Internal Process - Book & Bill	Node 8 Internal Process - Portfolio	Node 9 Internal Process - Resourcing	Node 10 Internal Process - Referrals	Node 11 Internal Technical Artefact - Case History	Node 12 Internal Technical Artefact - Case Library (Consolidated)	Node 13 Internal Technical Artefact - Central Resource Administration system	Node 14 Internal Technical Artefact - Central Data Warehouse	Node 15 #REF!	Node 16 #REF!	Node 17 #REF!	Node 18 #REF!	Node 19 #REF!	Node 20 Internal Process: Contracts et al
Node 1	External Social - Client				3																
Node 2	External Artefact - Issuance				3																
Node 3	Internal Social - Market Adviser				1	4			3												
Node 4	Internal Social - SME	3	3	1				4			2										
Node 5	Internal Social - CEO			4					4												
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4				3		3				4						
Node 8	Internal Process - Portfolio			3		4		3													
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals				2			3													
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx	Internal Process: Contracts et al																				

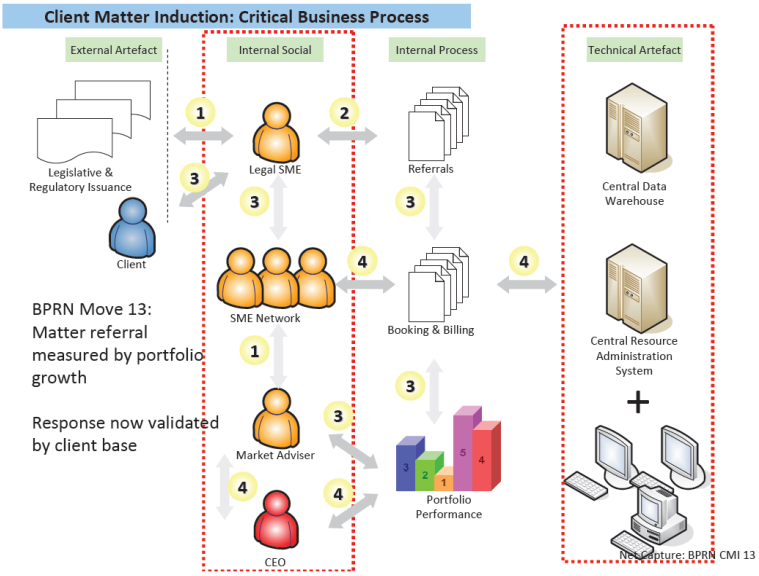


Figure 31: Client Matter Induction Business Process Resource Network Configuration (13)

Evolution 14

Network Capture Template

Case Organisation		Contact:	JD, AB & PD
Business Process:	Client Matter Induction	Coder:	H
Iteration Cycle:	14	Data Capture Date	15/10/2008
Process Configuration Start:	2008 (date config came into effect)	Upload to Net Tool	
Process Configuration End:	still current 2009 (date config detected unsuitable)		
Trigger Event:	Current state		

Notes:
Complete the matrix for all relationships
Name the artifact or agent or actor occupying
a node within the business process network
Classify the link according to the Relationship
Key Reference

Observations:

Tech layer in this case underpins process - critical dependencies on info provision (type & timing)

Portfolio is the absolute measure - take on reflected in growht stats as client take in since 2004 has DOUBLED to now; fee earners have almost doubled; operating figs must be good to have this revenue over margin

Adjustments to CMI process are unlikelt as this process is now "scaled" for global operation - only specific triggers eg an internal audit and compliance one (like removing SMEs from managing their own portfolios) are likely to bring about change to net composition

Most info flows are bilateral; extra processes join tech layer to make use of CDW and CRAS;

Most SME nets are practice based with any special splinter group forming and dissolving as the business need dictates

Doesnt happen unless CEO or Market Ad provide direct guidance

MATRIX

Relationship Key Ref:
1: Disjointed (link with no dependency)
2: Sequential (dependency)
3: Reciprocal (mutual exchange)
4: Intensive (critical real-time exchange)
(Grandori & Soda, 1995)

		Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16	Node 17	Node 18	Node 19	Node 20
		External Social - Client	External Artefact - Issuance	Internal Social - Market Adviser	Internal Social - SME	Internal Social - CEO	Internal Social - Planning Directorate	Internal Process - Book & Bill	Internal Process - Portfolio	Internal Process - Resourcing	Internal Process - Referrals	Internal Technical Artefact - Case History	Internal Technical Artefact - Case Library	Internal Technical Artefact - Central Resource Administration system	Internal Technical Artefact - Central Data Warehouse	#REF!	#REF!	#REF!	#REF!	#REF!	Internal Process: Contracts et al
Node 1	External Social - Client			2	1																
Node 2	External Artefact - Issuance			1	3																
Node 3	Internal Social - Market Adviser	2	1		1	4			3												
Node 4	Internal Social - SME	1	3	1				4			2										
Node 5	Internal Social - CEO			4					4												
Node 6	Internal Social - Planning Directorate																				
Node 7	Internal Process - Book & Bill				4				3		3				4						
Node 8	Internal Process - Portfolio			3		4		3													
Node 9	Internal Process - Resourcing																				
Node 10	Internal Process - Referrals				2			3													
Node 11	Internal Technical Artefact - Case History																				
Node 12	Internal Technical Artefact - Case Library (Consolidated)																				
Node 13	Internal Technical Artefact - Central Resource Administration system																				
Node 14	Internal Technical Artefact - Central Data Warehouse							4													
Node xx	Internal Process: Contracts et al																				

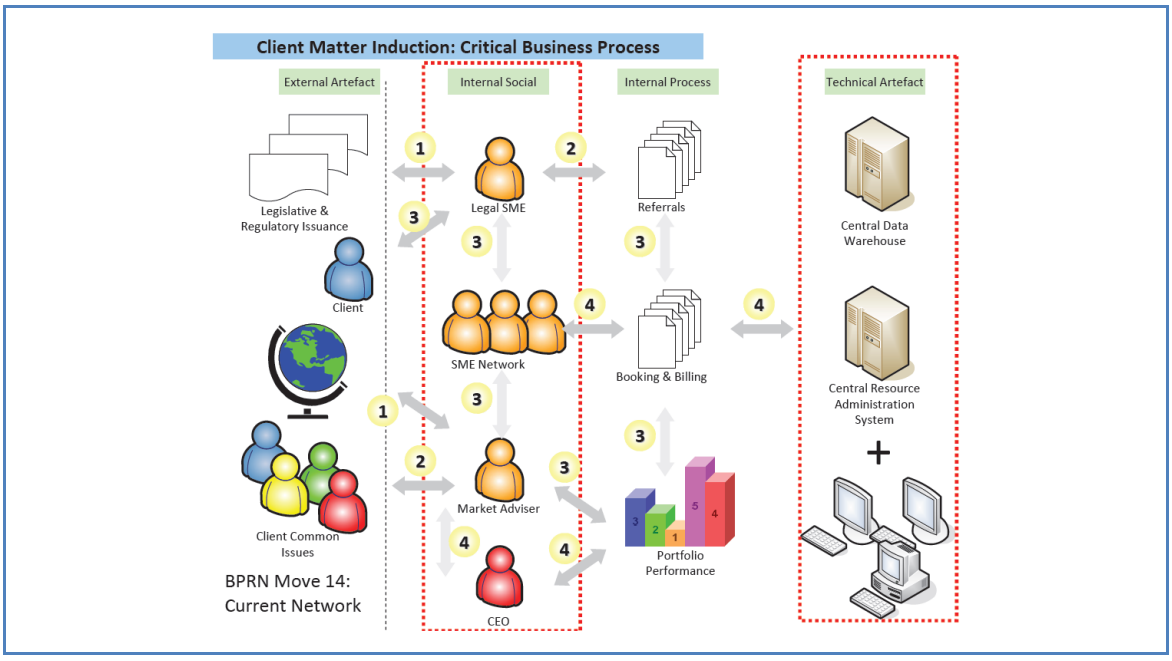


Figure 32: Client Matter Induction Business Process Resource Network Configuration (14)

For simplicity, these configurations are summarised and presented in Table 17: BPRN Configurations & Durations shown below:

Configuration	**Network Characteristics** (as defined in the Methodology)					**Observations from Network Definition Data Sources**
	Nodes	*Ties*	*Cut Points*	*Bridges*	*Lag Time (yrs)*	*(use of ":" depicts relationship between entities eg SME:process means "SME relationship to process")*
Start	10	7	6	3	5	Cut points here are the nodal disconnect of the SME:process, and process:artefact The bridge tie between SMEs is not shown – this indicates the sub net operating in isolation Critical ties exist between the SME: Process, and process: artefact
1	8	7	6	3	2	Node reduction through artefact consolidation (-2) (process efficiency)

						Process operates through revised routing to single node (multiple dependencies)
2	8	7	0	0	1	To break the network at any one node in this configuration would prevent the process from operating. The only potential break would be between the SME: Portfolio. If this were to happen, there would be no measure of success through linkage to Portfolio BUT the portfolio is then reliant on the SME (internal audit issue)
3	8	9	0	2	2	The disconnect of the SME from Portfolio to the direct link to Book& Bill process means the CMI process is more robust; any linkage to SME is disjointed for information only in effect. The actual ties which can then be cut are the ones which do not prevent process operation from continuing
4	8	8	0	0	1	Shows the bridge breaks removing total dependency on SME New routing to CEO/CFO
5	9	8	2	0	2	Simplification of network shown to indicate JOIN at PROCESS (cut point) in 2 instances (resource process to book & bill; resource process to portfolio) Introduction of additional node through JOIN at PROCESS (central resource admin)

6	9	8	0	0	13	Layer specific consolidation ie multiple components available as sub net off node
7	10	8	0	1	5	The additional bridge is IMPLICIT through the join of additional artefact at the technical node ie through consolidation of technologies and platforms). This does NOT prevent the process from operating. It makes the overhead of operation reduce.
8	10	8	0	0	3	Assume additional implicit artefacts now included (joined) at technical layer Critical dependency on this layer now formalised through technology outsource contract
9	10	8	0	0	2	“ownership” or control over technical layer brought back in house. No changes to network structure EXCEPT governance mechanism over the tech layer.
10	12	8	0	0	11	Complicated interpretation here: the CMI process strictly speaking does NOT need any additional processes to operate BUT additional processes may JOIN at the PROCESS nodes where they exchange information critical to related matters eg contracts. It also means that the more processes which can access the data warehouse can be assured of a level of referential integrity. Means that the more JOINS in

						process layer, the more set the ties become even though the CMI process itself may not be directly affected. Need to map inputs/outputs in each process to determine interdependencies within network layers
11	7	6	0	1	3	Critical dependency now against entire tech layer Bridge is acting as a JOIN at social network to facilitate development of social subnets (creation of practice groups)
12	9	11	1	1	1	Critical dependency remains on tech layer Could be argued that the SME:MktAdviser relationship could be cut as no longer critical BUT that would remove the informal trigger basis for feedback where MktAdv is in direct contact with CEO for portfolio
13	10	12	1	1	1	Additional JOIN between internal and external social contacts provides reciprocal feedback at SME node
14	12	14	1	4	1	Using single node to represent multiple client issues or global influences simplifies the construct(!) To remove any 1 of the potential "routes in" or points of engagement with the external trigger sources would NOT stop the CMI process –

						could be argued therefore that a max of any 3 ties could be cut out of the 4, but there are 4 ties to choose from. There is a layered social network which could be argued operates as a cluster (discrete sub net like a practice group) The critical feedback loops are in evidence from the tri-partite configuration of relationships between the CEO, MKtAdv and the portfolio performance.

Table 17: BPRN Configurations & Durations

The summary data presented in Table 17: BPRN Configurations & Durations shows the operational adjustments identified over the time period. Changes to network structure are noted againt joins, cut points and bridges.

Drawing on this table, we can see that the initial configuration 'Start' presents ten resources joined by seven relationships. There are six 'cut points' present, and three 'bridges'. The 'Lag time' represents the estimated duration or longevity of the BPRN configuration – in this instance this is noted as five years.

From the observational notes for this configuration, we can see that the cut points are present between the SME's and the process. There is a bridge between the SMEs (for joining/leaving the process) which indicates a 'sub net' operating. Finally, there are relationships types noted as critical, particularly between the SME and the process 'Book and Bill', and between the 'Book and Bill' process and the 'Case History' file (noted as the 'artefact'). The critical relationship is actually noted as a type IV 'intensive' relationship (Grandori and Soda, 1998) such that the information exchanges in the relationships are time-sensitive, content-critical and bi-directional.

4.5.2.1 Summarising Configuration Activity

The evolution of the network structure in this layer is limited to a thin description of the network activity. However, unlike purely social networks, actor networks operate process logic through their relationships to manage inputs and outputs. To cut a social network at a cut point creates a break in social contact. To cut an actor network creates a break in processing inputs and outputs. Such a cut can prevent the continued operation of the process. This is a critical point since the business logic must remain in order for FLS to function in matter induction.

For example, we can see from Evolution 2 that to break the network at any one node in this configuration would prevent the process from operating. The only potential break would be between the SME and the Portfolio. If this were to happen, there would be no measure of success through linkage to Portfolio. However, the portfolio is then reliant on the SME for reporting matters. This was raised through an internal audit issue. This is depicted in Figure 20: Client Matter Induction Business Process Resource Network Configuration (2) on page 139.

Whilst it is feasible to alter an actor network at a cut point, it may not be logical so to do. The CMI process would cease to function across the resource configuration if it were to be cut at these points. All the cut points within the CMI BPRN are noted in Table 17: BPRN Configurations & Durations to help ascertain whether cuts at those points break the business logic of the CMI process.

In addition to cut points, the resource configurations also show ‘join’ points. Joins allow the resource network to increase in size and add more actor resources to the network. Joins occur between the following connections: social to social elements; social to process elements; process to process elements; process to artefact elements; and artefact to artefact elements. For example, in Evolution 5, there are two instances of process-based joins noted: the resources process to ‘Book and Bill’, and the resource process to portfolio.

This is depicted in Figure 23: Client Matter Induction Business Process Resource Network Configuration (5) on page 143.

Certain types of join serve to close structural holes. This is evident where new processes join the CMI process through their information exchange routines. The Contracts process is an example of this join activity. In the process logic, the contract process data flow is redirected to the central data warehouse. In Evolution 10 for example, the CMI process does not actually require any additional inputs or outputs to operate 'on its own', yet additional joins are made by other processes. The contracts process exploits the information from the CMI process and makes use of the data warehouse to which it would otherwise not have access. This serves a wider purpose of referential integrity. As more joins occur through information routing, so the dependency increases on the information flows. This instance is shown in Figure 28: Client Matter Induction Business Process Resource Network Configuration (10) on page 151.

The CMI resource network expands through direct joining of artefacts, in particular through technology layers. In Evolutions 6 though 9 for example (see the BPRN configurations on page 145), there is the depiction of specific consolidation of technology, and bridging of the technology layer to reduce operating overheads. This is noted specifically through joins on the technology nodes. The final observation to note is that the technology artefacts, when viewed as a technical layer, are treated as assets to be managed through an outsourcing contract. Yet by Evolution 10, control over those assets is brought back in house.

The operating cost of administering each technology layer is a management overhead. By joining technology layers together, operating cost overheads become shared over a greater asset base. This join activity leads to improving total cost of ownership for the assets. It also improves profitability as costs are seen to reduce. Artefact joins (and process joins to make use of artefacts) are justified through the financial rationale for allocating operating costs over a

greater network of resources. Joins are used to 'spread the cost' of the process operation over a wider organisational resource network.

Actions and activity affecting individual resource actors or an actor group is considered at individual or micro level according to Bhaskar et al (2010). Layer 1 is considered at levels ii and iii of this laminated system.

4.5.3 Layer 2: Operational Events in the BPRN Timeline

Layer 2 considers individual actors as well as groups – noted as ii and iii according to Bhaskar, et al (2010). In this layer however, the actors are operational events, and individual reports. The second layer of events identified in the study is shown in the Figure 33: The CMI Operational Events (1980 through 2009) below:

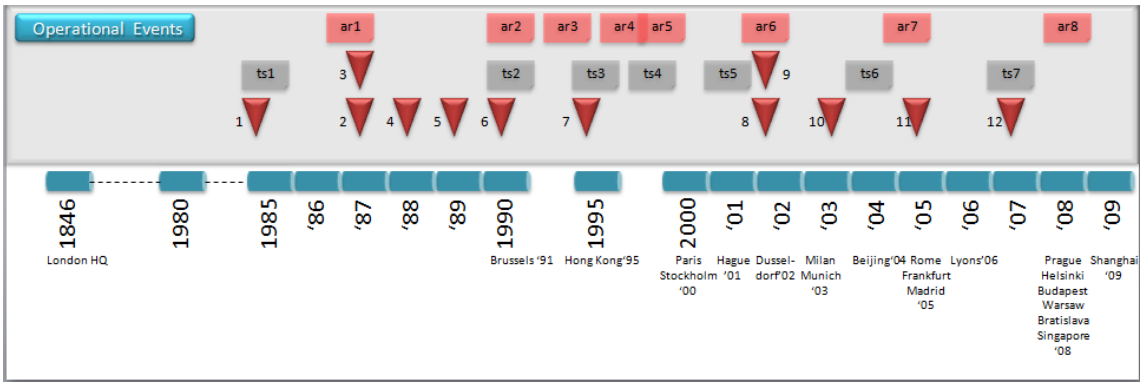


Figure 33: The CMI Operational Events (1980 through 2009)

In Figure 33: The CMI Operational Events (1980 through 2009), there are twelve events noted. These are shown as the inverted triangles and their occurrence on the timeline is noted alongside the timing of the Audit Reports and Technology Strategy documentation. The reports and operational events occurring in the timeframe is summarised in Table 18: Operational Reports & Events shown below:

Time Period	Audit Reports	IT Strategy Documentation	Operational Event Description	Event Ref

1985-1986		Draft December 1985	FLS recognise the case load management dependency on each SME; leads to lack of shared knowledge but does create “specialists” in specific knowledge areas	1
1986-1987	June 1987		Creation of central library for cases	2
1987-1988	(remedial statement)		FLS recognise the influence of the SME on their own portfolio performance and act to remove conflict of interest	3
1988-1989		(draft August 1989)	All portfolio management is disconnected from single SMEs	4
1989-1990		September 1990	Central Resource Administration System (CRAS) brought online to facilitate movement of SMEs for booking out to clients and subject coverage per case or matter requirement	5
1990-1991	June 1991		Booking & Billing (Book & Bill) process ownership changes	6
1991-1992				
1992-1993				
1993-1994	(interim Jan 1994)	September 1994		
1994-1995			Increasing recognition of requirement for systems consolidation	7
1995-1996	June 1996			
1996-1997				
1997-1998		September 1998		

1998-1999	June 1999			
1999-2000				
2000-2001		September 2001		
2001-2002	June 2002		Decision for Central Data Warehouse Project to overcome legacy data structures which no longer cope with increased data processing requirements	8
2002-2003			Begin outsourcing process for non-legal business functions inc IT support	9
2003-2004		September 2004	Begin outsourcing for business critical systems	10
2004-2005	June 2005			
2005-2006			Decision to bring business critical systems back under FLS control	11
2006-2007		September 2007	Central Data Warehouse project completes to support multiple processes; includes global accessibility & enterprise resource planning (ERP)	12
2007-2008	June 2008			

Table 18: Operational Reports & Events

These operational events are evidence of the observed empirical data. In isolation, they are purely a series of events. Yet their depiction in the Causal Map shows alignment to the activity taking place in the BPRN. To consider an event through both layers one and two provides a 'slice' view of the evidence.

For example, if we consider BPRN evolution 8 from Layer One, and events 9, 10 and 11 from Layer Two:

The consolidation of the technology layer through resource networks joins created a common technology pool of resources for non-core business activities which was outsourced. This extended to critical systems within a year. The operation of the resources continued until such time as the audit reports identified the reliance upon critical systems under the control of 3rd parties. The BPRN then changes from evolution 8 to 9 as a result of event 11 in the Operational layer when the decision to bring the management of specific resources back in house.

Evolutions 6 through 9 noted at the BPRN layer (where technology nodes join and 'layers' are formed for operating overhead cost reduction) are closely aligned to events 9 (outsourcing begins), 10 (all technology is outsourced) and 11 (control over technology is brought back into FLS) in the Operational layer.

The evidence triangulation table reflects the narrative of activity in the BPRN. Used in conjunction with the operational events, there is a correlation of activity with event. This correlation is indicative of the empirical observation being borne out by actual instances of event.

4.5.4 Layer 3: Strategic Events in the BPRN Timeline

The key events in this layer are shown below in Figure 34: The CMI Strategic Events (1980 through 2009) below:

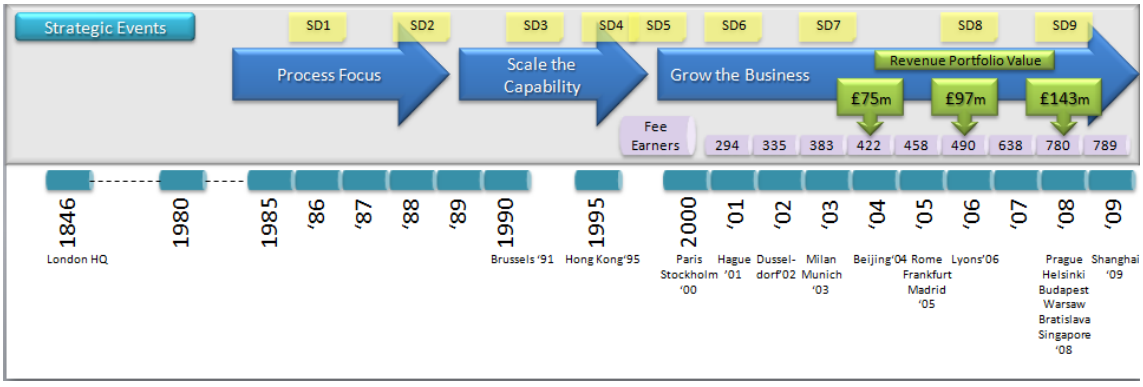


Figure 34: The CMI Strategic Events (1980 through 2009)

In Figure 34: The CMI Strategic Events (1980 through 2009) there are nine specific points noted for the timed issue of the Strategy Document (noted as SD1 through SD9 above). Also shown are the reported number of Fee Earners for the period 2001 through to 2009, and the specific revenue reported in 2004, 2006 and 2008.

The alignment of the CMI BPRN activity from Layers One and Two with the strategy documentation issued – the "slice view" – presents another means to explore the evolution of the BPRN and the rationale for the activity. Three strategy focal points are identified over the time period from the documentation data sources shown below in Table 19: FLS Strategy & the Context for CMI BRPN Evolution – Selected Comments:

Time Period	**Strategy Focus**	**Selected Descriptions from the Data Sources**
1980's	Focus on Process	*".. the challenge we face... optimising our internal processes while sustaining our business model.."* *".. seeking to demonstrate internal efficiencies through optimising process.."* *"... robust yet adaptable... business process operations to support the firm.."* Sources: strategy briefing documentation (April 1986, 1988); audit reports (June 1987)
1990's	Scale the Capability	*".. seeking the support of the Board to invest in the development of strategic business capability... long term.. global expansion.."* *"..technological capability to support and enhance our business model.."* *".. adopting standards to ensure ease of future integration.."* *".. asset reorganisation to support evolving business model"* Sources: strategy briefing documentation (April 1992, 1996, 1998); IT strategy documentation (September 1990, 1994, 1998)
2000's	Grow the Business	*"We will actively pursue the expansion of our global offices to extend the reach of our capabilities in serving our clients"*

		"We are supporting the increasingly complex nature of our clients' business through our global reach" *"Our success is underpinned by solid financial performance... fee earners and partners...reflected in our portfolio.."* Sources: strategy briefing documentation (April 2001, 2003, 2006); directors reports (May 2001, 2003); audit reports (June 2002)

Table 19: FLS Strategy & the Context for CMI BRPN Evolution – Selected Comments

These comments, selected from the documentation sources, have been grouped by their topic. As a result, the three strategic thrusts (Rindova and Kotha, 2001) were identified. Specifically these are "Process Focus" which starts in 1985 and lasts until 1990; then "Scale the Capability" which starts in 1990 and continues through 2000; then finally "Grow the Business" which starts in 1998 and continues to present day. Note that these periods of time are not identical – their temporal bracketing is variable in elapsed calendar time (approximately 5 years, 10 years and 12 years respectively). These thrusts are aligned to the timeline in the BPRN evolution map. The additional information of revenue and fee earning partners was also mapped to the timeline.

The result of changing the CMI process has created a capability, including support structures, to serve client interests. This capability is exhibited by the specific business process resources, including the process interfaces and technical components. [4] explains:

"…what we have now, in the last 5 or so years, is the ability to support both the creation of capability with the necessary support structures – warehouses and such like – and we have the ability to act very rapidly when matters warrant it. Paul has given us the technical flex we need, the process itself hasn't changed much in the last few years, so it's down to our internal response rates for bookings and what not. And of course portfolio." ~[4]

In addition to the strategy focal points, the CMI process has evolved as a result of managerial intervention. The intervention has occurred as a result of

deliberate decisions made by specific stakeholders in their consideration of the industry and market operating conditions. JD identifies the CEO as the driving force behind decisions for sector and practice development:

"Is the question about how this process and its components got to the state they're in? ... Was it deliberate do you mean? Deliberate in the sense that we made specific choices to pursue particular courses of action? Then yes we did ...[that's] why we've deliberately chosen to specialise in certain sectors, and certain legal practices. That's more business driver, isn't it? You can thank the CEO for that".~[5]

The strategic thrusts identified from the data provide the contextual setting for the activities. Triggers from these strategic thrusts can be identified by considering the alignment of operational events such as the Technology Strategy events and the occurrence of Audit Reports' findings. For example: the Audit Report Remedial Statement, an event identified in the BPRN Operational Layer, noted as event 3 (the reader is directed to refer back to Table 18: Operational Reports & Events) impacted the BPRN by triggering events identified in BPRN Configuration Layer, noted as events 3 and 4 (the reader is directed to refer back to Table 17: BPRN Configurations & Durations) where the network is 'broken' to remove a conflict of interest dependency to improve the robustness of the business process.

4.5.5 Layer 4: External Events in the BPRN Timeline

The key events identified in the external environment are noted in Figure 35: The CMI External Context Events (1980 through 2009) below:

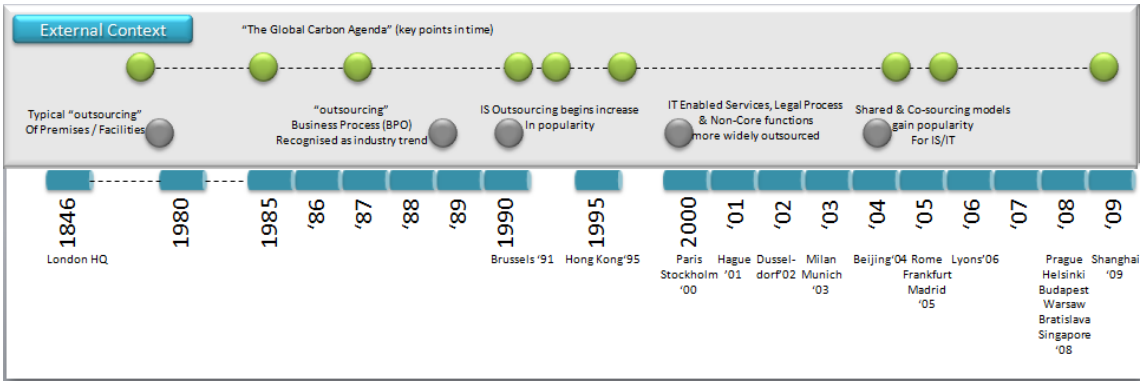


Figure 35: The CMI External Context Events (1980 through 2009)

There are two external influences identified by the participants which have an impact upon CMI BPRN evolution. These are the 'green agenda' (also referred to as the 'global carbon agenda'), and the industry trend to 'outsource' functions, activities or processes.

Points of note for the 'Green Agenda' influences are described in summary below:

Pre-1980	1973: speculation over Chlorofluorocarbons (CFCs – "green house gas") as well as CO2 has an impact upon global climate
Early 1980s	CFC pollution reduces through local legislation & changes in fuels usage; CO2 levels increase
1985	International conferences conclude that "greenhouse gases" expect to contribute to global warming
1988	Recognition that "human-caused" warming posed global threat; targeted reduction of 20% by 2005 based on 1988 levels
1990	World Climate Conference
1992	UN "Agenda 21" Rio Conference
1992	introduction of carbon taxing & legislation
1995	International Climate Change Partnership: companies & trade associations organisation formed to influence climate change legislation

1997	Kyoto Protocol
2005	Carbon trading schemes implemented in EU; G8 agenda features climate change
2006	Stern review publication: UK government urged to influence EU CO2 emission inc. measures for control & international cooperation
2009	US passes legislation to gas emissions related to climate change

Table 20: Operational Green & Carbon Agenda Key dates – Summary of Influences (sources: strategy documentation; client matters content incoming; SMEs increase in cases in carbon/green agenda related issues; reported global events)

Points of note for the 'Outsourcing' influences are described in summary below:

1980	Typical "outsourcing" of premises and facilities management increases as "non core business processes" and functions are undertaken by 3rd parties (sometimes as a cost reduction)
1988-89	Increasing "business process outsourcing" (BPO) prevalent for certain business functions
1990+	Information systems & associated technology become popular targets for outsourcing where businesses focus on their products & services, not the technological platforms upon which they operate
Early 2000	More business processes become technology enabled, non-core functions outsourced as competitive measure as well as cost measure
2004+	Shared and co-sourcing models become more popular for managing internal technology services

Table 21: Outsourcing Summary of Key Dates (sources: reported industry events; IT strategy documentation; strategy briefings)

The reason these two specific external influences were noted was because they provided the basis for the external triggers. As a laminated system, this layer of events is representative of level iv – the macro level - identified by Bhasker et al (2010).

Drawing on the events in Figure 35: The CMI External Context Events (1980 through 2009), we can see (for example) the industry trend to outsource technology and undertake cost rationalisation from the 1990's onwards. When this information is aligned to the operational events, we can see that in approximately 1994-1995 we have event 7 (the recognised requirement for systems consolidation) noted in Table 18: Operational Reports & Events on page 166. If this is further examined, we see that this impacts the BPRN through events 6 (noted in the BPRN layer as the 10year data migration project and the formation of the underlying technology layer) and 7 noted in Table 17: BPRN Configurations & Durations on page 161.

This example of the 'slice' view of events is shown in

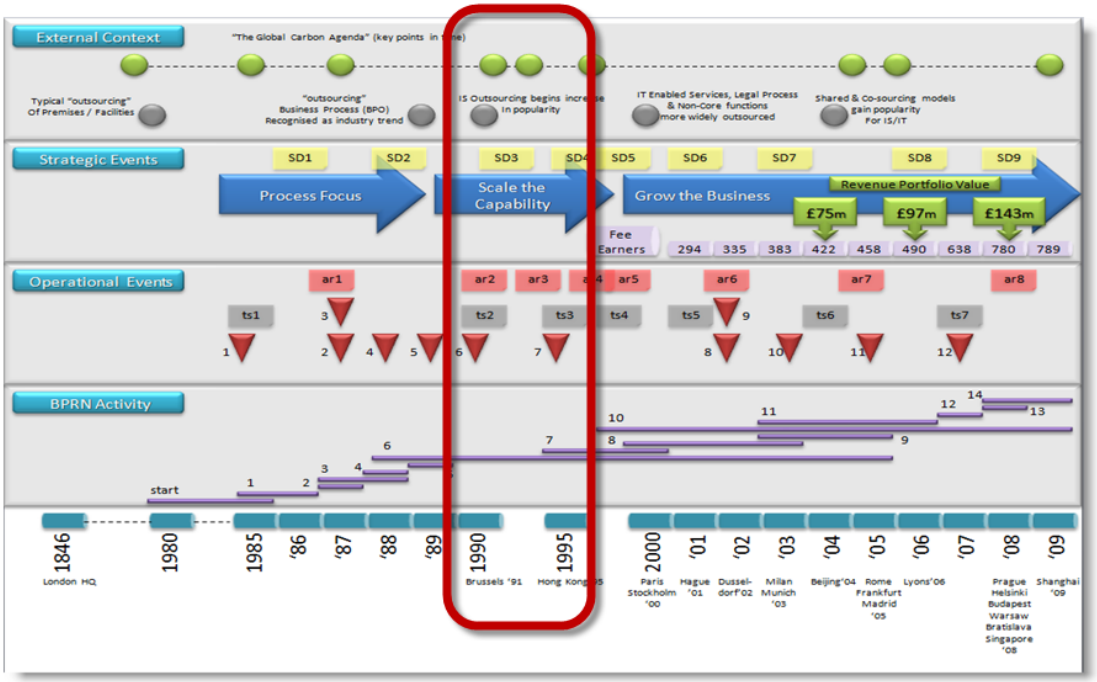


Figure 36: The CMI Evolutionary Map – Event Conjunction:

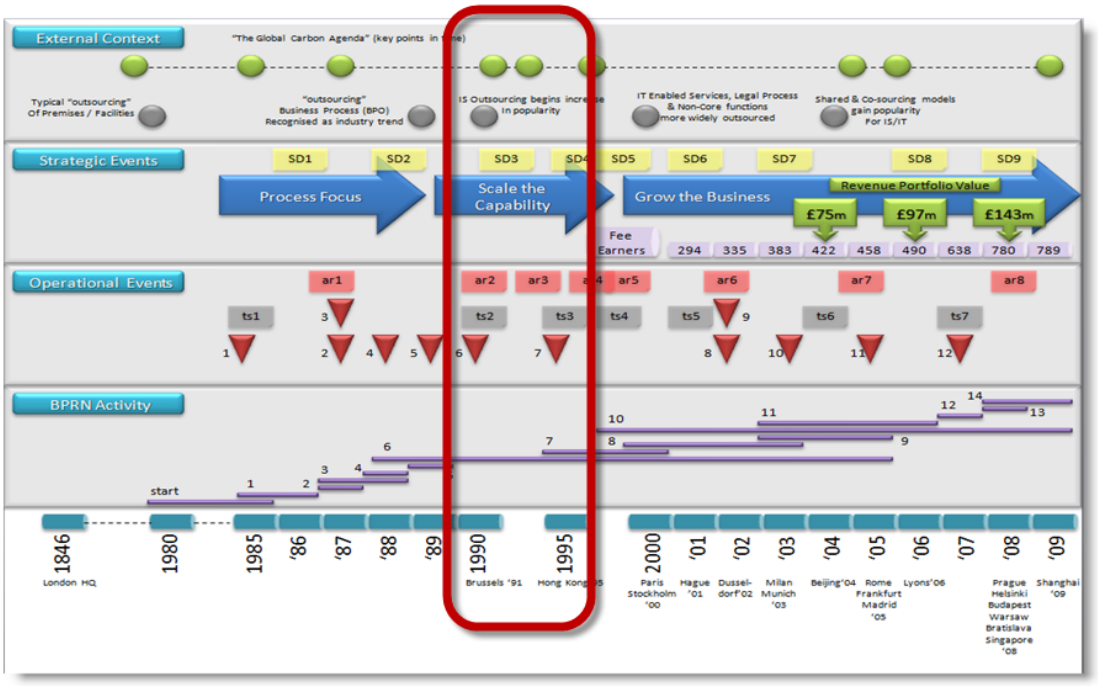


Figure 36: The CMI Evolutionary Map – Event Conjunction

The multiple events occurring in this time frame present a conjunctive view as described above. There is an apparent trigger for BPRN configuration activity driven by the recognition of the external factor for the trend in outsourcing and systems consolidation. This is reflected by the both operational layer events, and the micro-state events.

In the next section, the rationale for evolution is discussed.

4.6 Identifying Triggers for BPRN Evolution

The research sub question, "How is this resource network changing and why?" has its foundations in the reasons for evolution.

The causal map supports the process of describing how the BPRN morphs, the conjunctive and coincidental event occurrences offer potential rationale to explain why it does so. The causal map lays out the multi-level events over time, and consequently, the conjunctive and coincidental interpretation of the data informs the rationale for evolution.

There are two specific categories of triggers which result in change for the CMI resource network. These triggers are grouped into those which are external to FLS and those which are internal. Each group is discussed in the following subsections.

4.6.1 External Triggers

The external triggers are summarised into specific categories, informed by the interview and workshop data summarised in Table 22: External Triggers for CMI BPRN Evolution below:

External Trigger	**Reasoning and Explanations: Extracted Quotes from Interview and Workshop Data**
Market Stimuli	*"Do we respond to what goes on the market? Yes we do – we have to"* *"We get hit with lord knows what from various institutions who pass out legalese for the real lawyers to interpret"*
Client Specific	*"…Offer it as a service and someone wants it …"* *"…So clients come to us…they have a problem or a tricky transaction, then we're there. And we get to know about typical problems that occur in particular sectors"*
Business Development to meet Market Needs	*"We spot something that is going to affect clients, and snowball a rationale for getting a bunch of people together to solve a problem"* *"Its driven by our market advisory function who watches the market for influences like regulation, or new legislation, this is where client matters come from"* *" We may choose to develop that as a capability practice at a later time, but we need a critical mass to make it worthwhile. And that doesn't just come from the human capital. It comes from exploiting all our warehouse intelligence, market intelligence, and big decisions from bigger trousers on where our priorities lie"*

Industry Agenda	*"…Carbon agenda, the green politic of the day. We can tell you thanks to our warehouse who is doing what right now on it, how much that client base is worth in bookings and billings across the market, every sector, across the world"* *" Let's say we decide we no longer do green. What happens? Well I'll tell you what happens. We hive off little networks of people, SMEs from our offices, like virtual teams, building communities. Well the network effectively splits off the areas to create sub networks and they are free to evolve on their own, just as we are"*

Table 22: External Triggers for CMI BPRN Evolution

These triggers identified above are representative of the type iv functionalist and type v macro level attributes of a laminated system (Bhaskar et al, 2010).

The market stimuli concern the regulatory and legislative content which is issued by the law-making bodies around the world. An example of this would be any form of binding agreement or precedent which has an impact upon the advice or services which FLS provide.

Another source of change is client common issues. These are identified when FLS take on similar business requirements through their coverage practices. An example of a client common issue is the commercial business practice of managing off-shore outsourced agreements. This client-driven source of change often provides the rationale for developing new legal capability or practice areas.

Finally there are global 'hot topics' or trends which influence whether FLS consider taking on business in relation to those topics. An example of a global hot topic is the carbon emission reduction programme being co-ordinated through international accords (see for example the industry trends identified in Table 20: Operational Green & Carbon Agenda Key dates – Summary of Influences (sources: strategy documentation; client matters content incoming;

SMEs increase in cases in carbon/green agenda related issues; reported global events) on page 172) and identified as part of the Layer 4 events noted in Figure 35: The CMI External Context Events (1980 through 2009).

The two most frequently occurring external triggers of change are issuance of formal matters and client requests. Global trends typically elicit a global response, developed over longer time periods. Sometimes FLS develops local variations of business response to suit the specific geographical markets in which FLS operates. An example cited by FLS is the Kyoto agreement which addresses the issue of global warming. FLS provide aviation industry-specific briefings to generate compliance awareness for the Kyoto agreement.

FLS undertakes assessment and referral activities to respond to these sources of change through the CMI process. The CMI process consists of a number of actors including technological assets, which act in relation to each other to perform the function of taking on (or rejecting) business. FLS assesses the impact of external events against four areas, specifically the internal business process; subject matter experts; the asset base and technological infrastructure; and the stakeholders with an interest in the outcome of the CMI process.

These areas are important because they provide the constituent components engaged in response activity. When external events occur, it is these internal actors which are affected.

The result of the CMI function generates income for the organisation. The income is reported through the firm's 'portfolio performance management' reporting function (shown in Figure 34: The CMI Strategic Events (1980 through 2009) on page 167. The portfolio report is provided to the Chief Executive and senior management team. Extracts from the portfolio report provide the basis for FLS's formal accounting submissions to relevant corporate governance bodies.

4.6.2 Internal Triggers

The second category of sources for change concerns the internal triggers. The internal triggers are summarised below in Table 23: Internal Triggers for CMI BPRN Evolution:

Internal Trigger	Reasons, Explanations and Supporting Quotes from the Interview Data
Portfolio Performance	*"Do we rejig when portfolio postings aren't acceptable, ..satisfactory? Yes we do"* *"We started getting clever about how much it was costing us to actually take on client business as well as understand how much was being generated from them. Like portfolio profitability"* *"Q: what happens when your portfolio isn't regarded as successful? A: J: ... Worst case? Well some johnnie gets the chop"* *"Portfolio is key. When that's not right, we act. Absolutely we act"* *"Portfolio is a huge indicator. Clients, cases, value…"* *"Our ability to support client transaction is critical, and the more adept we are in understanding their problem, the better placed we are to advise. And win. And collect fees. Portfolio is a huge measure actually"* *"Q: So what happens if the client matter induction isn't successful, or you can't provide a referral answer, or it takes too long or something? A: J: ..[Of] course we have to keep the CEO happy because he calls on us to make it all happen. And if it doesn't, we have to jolly well fix it"*
Detection Rates	*"Can reason for take on have come from us getting smart about something?"* *"Or spotting the brown stuff before its hits the fan of legal life?"*
Internal Audit & Compliance	*"The system had an inherent weakness"* *"SMEs could show book & bill straight to their own portfolio without*

	too much checking" *"...remember... that this is all about portfolio. What we had was a bunch of chaps who did their own thing, their own way, and squirreled away the history files and then ran their books and billing off them. I mean can you imagine the questions this raises? Portfolios mean prizes – well, fees and salaries and shares and such like"*
Scale of Capability	*"We have practice areas growing as a result of common themes emerging from our client matter induction"* *"What we have now, in the last 5 or so years, is the ability to support both the creation of capability with the necessary support structures – warehouses and such like – and we have the ability to act very rapidly when matters warrant it."*
Grow the Business	*"We did open some significant offices across the globe though… And that meant, by implication, ensuring we had a consistent take on process for all matters"*
Process Efficiency	*"I mean of course you're going to get local variation, but at when it comes down to it, you still have to find the SME, there's still an internal referral against client conflicts and history and what not, and there's still a bunch of chaps who do the clever stuff and book to it. That's not a fundamental process change though. That's a consistency of process"* *"Same process, multiple places"* *"You know ultimately, if [name] isn't happy, then he does make change happen. And the first place he looks is against the portfolio. And what drives the portfolio? New business and repeat business. And what underpins that? CMI"*
Technological Infrastructure	*"The reason for this becomes an economic one. Firstly we have the overhead of multiple systems instead of one"* *"Many of the same systems. Of course we try to consolidate the*

	number of systems; we are managing all these technology pieces in lots of places" *"We could argue we don't do IT but its in our nature now, in our process, because we have electronic everything"* *"Like a lateral line was joining these databases to make the capability in referring a new client"*
Information/Data Structures	*"The problem we have is that we have 10 year old data structures which do not support the level of details the CEO wants to support the decision making"* *"Secondly, the data is mission critical and we need to manage it centrally"*
Stakeholders Demands	*"The system itself is there all the time, receiving updates, or having queries posted against it, but the CFO he doesn't get his information in the right time, …we are in trouble..."* *"The business is growing, the CFO wants correct reporting against profitability"* *"The CEO wants portfolio positions, its all fragmented without this warehouse solution"* *"Portfolio is key. When that's not right, we act. Absolutely we act. …Is it triggered by our paranoid drivers to stay head above water yes absolutely"* *"We have a number of processes which have changed, mainly because the CEO gets upset when things don't happen as he wants them to"* *"Don't fix if it isn't broken. Or only meddle when you want change"* *"When stuff goes pear-baloney-who-ha what do we do…We bloody well fix it is what we do… We'll rejig lines of business, move subject matter chappies about, recut portfolios …chunks and glue back in the business process"…"It's about keeping [name] happy. And if he*

	isn't,…We … fix it"

Table 23: Internal Triggers for CMI BPRN Evolution

The 'portfolio performance' and 'stakeholders' demands' categories are more heavily populated than other internal triggers. This shows the relative importance of these two categories as change trigger sources for CMI. Irrespective of trigger source, the effectiveness of CMI is reflected through portfolio and stakeholders' satisfaction.

4.6.3 Triggers & Their Frequency

A simple comparison of the categories in Table 22: External Triggers for CMI BPRN Evolution and Table 23: Internal Triggers for CMI BPRN Evolution shows that there are 9 internal triggers to 4 external triggers. What this shows is that the internal environment activity is more than twice as 'busy' as the external one.

When these events are considered over the timeline, the occurrence of triggers, over the time line duration, shows that these triggers are not single instances nor are they sequentially dependent. The externally driven events are not one-off special events that only occur in one moment – the majority are simply points of note in the calendar. The events – identified as being attributable to the Green Carbon Agenda and to the trends in outsourcing – are not related or dependent upon each other. Some events – such as the sequence for the trends in outsourcing – are sequential only in that they follow an 'industry'.

The internally driven events shown comply in part with standard reporting procedures for FLS – audit reports, strategy documentation and technology briefing documentation for example.

Taken together, the internal and external triggers are shown as occurring at the same time. The frequency is variable. There does not appear to be any mutual exclusivity or timing conflict against any of these triggers. The occurrence of

one event in one layer does not prevent the occurrence of an event in another layer – events often occupy the same time period even though their origin layer (operational, strategic or external) is different.

To a certain extent, change (or the need for changing) within the BPRN, whether driven by internal or external factors, is driven by expectation of performance. Internal events – those occurring at the operational and strategic layers – are driven by stakeholders. External events – those identified in the external context layer – are more random.

To ascertain how the BPRN is changing and why entailed mapping the evolution of the network structure (how it changes) to these trigger events. Each iteration of the network shows a duration of configuration as the cut, join, and information flows develop. The table specifically maps the iterations to the trigger types identified in Table 22: External Triggers for CMI BPRN Evolution and in Table 23: Internal Triggers for CMI BPRN Evolution. The resultant mapping is shown below in Table 24: CMI BPRN Mapping Evolution Triggers to Evolution Activity:

Configuration	Internal Trigger	External Trigger	Mapping Evolution Triggers to Evolution Activity
Start	✓	✓	Ext Client Specific Process starts with trigger from external client so this triggers the entire process & exposes the internal inefficiencies (!)
1	✓		Process efficiency – technology layer Scale of Capability – technology layer (technology infrastructure)
2	✓		Internal Audit & Compliance
3	✓		Process efficiency – process layer
4	✓		Process efficiency – process layer Portfolio performance
5	✓		Process efficiency – process layer Portfolio performance Scale of Capability – technology layer (technology infrastructure)
6	✓		Scale of Capability – technology layer (information & data structures)
7	✓		Scale of Capability – technology layer
8	✓		Process efficiency – technology layer
9	✓		Process efficiency – technology layer
10	✓		Scale of Capability – process layer Process efficiency – technology layer
11	✓	✓	Market stimuli Industry agenda Scale of Capability – social layer Process efficiency – technology layer Portfolio performance
12	✓	✓	Market stimuli Industry agenda

			Scale of Capability – social layer Process efficiency – process layer Portfolio performance
13	✓	✓	Market stimuli Industry agenda Business development Portfolio performance Scale of Capability – social layer
14	✓	✓	Market stimuli Industry agenda Business development Portfolio performance Scale of Capability – social layer

Table 24: CMI BPRN Mapping Evolution Triggers to Evolution Activity

This attribution of event to BPRN reconfiguration shows the cross level effect of events in layers 2, 3 and 4 on layer 1. Why certain changes came about are thus attributable to specific reasons. For example, BPRN configuration 6 was in place and began to change as a result of the data warehousing project. Specifically, the data warehousing project was incepted to address the data structures required by the business to operate the CMI process (as well as others). The banner under which this project took place was 'scale the capability' – identified as the strategic thrust at the time.

There is an argument that suggests FLS was not 'externally aware' between configurations 2 and 10. This is because no BPRN configurations are attributed to external forces. However, the strategic focus at the time of BPRN configurations 2 through to 10 was that of Scale the Capability. The counterargument is thus that any activities were internally focussed. The attributable reasons for change in that period are noted as process efficiency and scaling of capability.

This does not mean that FLS were externally 'unaware' of events. In the same time period, there were 5 events in the external environment. Again, this does not imply ignorance of the event – only that FLS chose not to take direct or immediate action as a result.

A basic frequency graph was drawn to identify the occurrence of the trigger types over the time frame. The triggers were identified by examining the evidence triangulation table, the causal mapping undertaken, the interview notes and documentation sources. The findings are shown below in Figure 37: CMI BPRN Triggers Frequency:

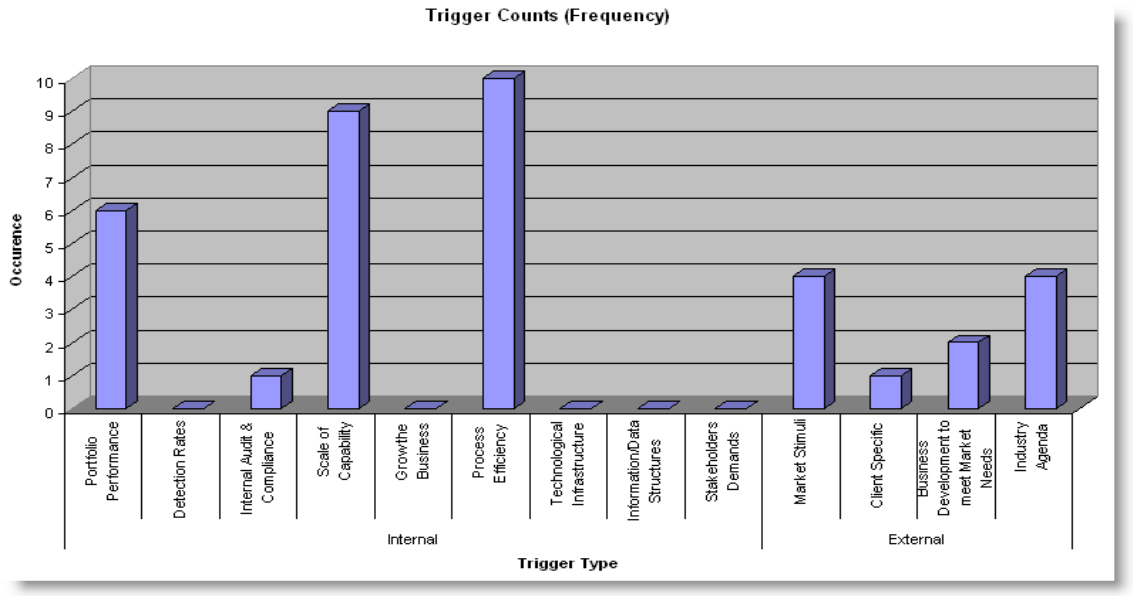


Figure 37: CMI BPRN Triggers Frequency

In summary this figures shows the following:

Firstly, there are five categories with zero values. These are all noted as internal triggers. Three zero value categories reflect the strategic drivers which have been identified within the study time frame.

Secondly, technological infrastructure and information/data structures have been group together within the Scale of Capability category. Scale of Capability is the overarching theme to show the principal reason behind the evolution.

Thirdly, the Stakeholders' Demands category is linked to Portfolio Performance. Triggers which relate to portfolio performance can be traced to stakeholder demands and instances of intervention. The instances of intervention are documented in the evolution diagrams of each BPRN configuration, and supported by narrative. This intervention affects the behaviour of resources

There are three immediately identifiable internal triggers which affect the evolution of the CMI process. Specifically, these are 'Portfolio Performance', 'Scale of Capability', and 'Process Efficiency'. The external triggers occur less frequently. The external triggers occurring most frequently are 'Industry Agenda' and 'Market Stimuli'. Since CMI is FLS' business process operating as the interface for client and industry issues, these two triggers are not unusual to cite as the most frequently occurring external triggers. However, the ratio of internal to external triggers suggests that internal triggers generate more than twice as many reconfigurations.

4.6.4 Understanding Triggers & Time Delay in BPRN Activity

Further analysis of the causal map and the timing of evolution events was undertaken to bring to light indicators of "lag", or delay, between iterations. The results of this analysis are shown below in Table 25: CMI BPRN Triggers Identification & Time Lags:

Configuration	Lag in Years	Internal Trigger	External Trigger
Start	5	✓	✓
1	2	✓	
2	1	✓	
3	2	✓	
4	1	✓	

5	2	✓	
6	13	✓	
7	5	✓	
8	3	✓	
9	2	✓	
10	11	✓	
11	3	✓	✓
12	1	✓	✓
13	1	✓	✓
14	1	✓	✓

Table 25: CMI BPRN Triggers Identification & Time Lags

The summary table was drawn up by identifying the time delay between network evolutions, and the identified trigger event. For example: the Start configuration appears to have remained in situ for 5 years when both Internal and External triggers created a requirement to change. The next configuration (Configuration 1) then remains in place for 2 years when an Internal trigger is noted. This provides a cross reference to determine any correlation between the longevity of the configuration before change occurs, and the reason for change (whether the change is attributed to an internal or external trigger).

The mapping of trigger type to lag duration suggests that there is no difference between internal or external triggers causing longer durations of evolution. Both internal and external triggers have a time range of one to eleven years. There is one exceptional case of a thirteen year duration. This duration includes the business case and feasibility study timescales employed to start the BPRN changes.

4.6.5 Understanding BPRN Activity & Concurrency

There are evolutions of resource configuration that run concurrently during the entire time frame. This concurrency in itself is one feature of the continuous

transformation process. The second feature of this concurrency is the relationship with the strategic initiatives identified. This concurrency of evolutionary activity is shown by mapping the iterations against the strategic business drivers. These business drivers were identified as strategic thrusts from the data examined in the strategy documentation available from FLS.

The majority of internally focussed evolutions occur in the strategy phases of 'Process Focus' and 'Scale the Capability'. The last strategy phase – 'Grow the Business' – aligns with the more complex evolutions involving more triggers and resources (from iteration 10 to the current configuration). Figure 38: The CMI BPRN Concurrency of Evolution Event & Alignment with Strategy Phase shown below depicts the identified strategy phases and the durations of each identified resource configuration:

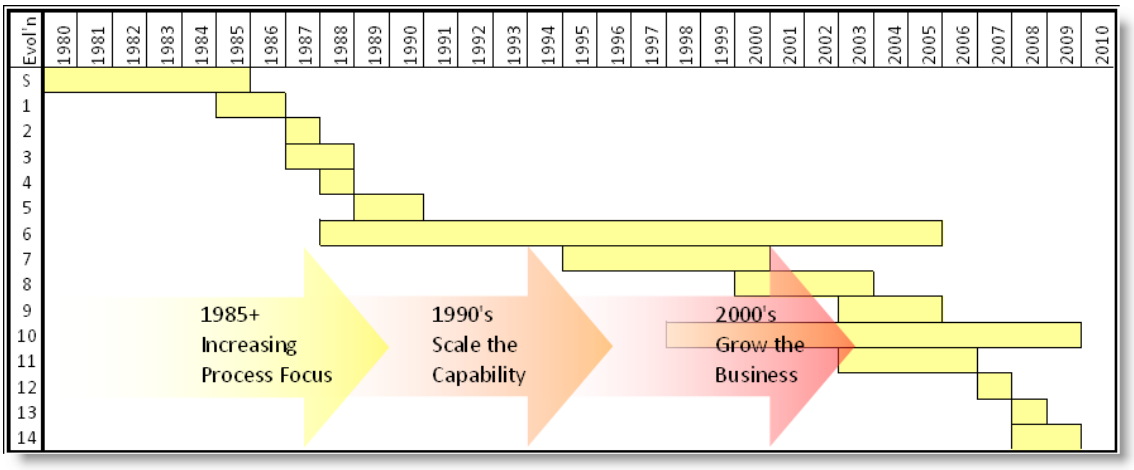


Figure 38: The CMI BPRN Concurrency of Evolution Event & Alignment with Strategy Phase

The evolutions of resource configuration undertaken prior to iteration 10 are pre-requisite activities. These pre-requisite activities prepare the CMI process to be as flexible as possible for future adaptation. At the same time, those activities endow the CMI process with a set of relationship dependencies. These dependencies create the cut and join points within the resource network.

FLS use the value of their portfolio as a measure of success associated with the CMI process. The financial reports (from the documentation sources) show that FLS revenue is reported at £75million (2004) and increases to £143m (2008). This is a direct reflection of CMI process effectiveness because successful client matter induction generates revenues. FLS calculate efficiency using the measure of profitability margin. This is an FLS internal figure calculated based on revenues, specific operating costs, and contribution of business units to profit. The cost of securing business (where the principal process in operation is CMI) is running at approximately 18% margin. The measures of portfolio value and margin are used to demonstrate to stakeholders that the CMI process is contributing to success.

4.7 Summarising BPRN Evolution

The research question being addressed in this exploratory study is “How do BPRN morph over time?”

To that end, the specific questions which needed to be addressed were:

- What are the resources involved in performing the business process?
- How are these resources identified and described?
- What relationships exist between the resources in this network?
- How is this resource network changing and why?

The answers for the first three questions are drawn from the narrative and visual mapping results. The fourth question of how the BPRN changes and why is the beginning of the identification for generative mechanisms (Bhaskar,1994). This is the ‘retroduction’ phase identified in the methodology.

Retroduction is the process of suggesting potential generative mechanisms which, if they existed, would generate the observations (Bhaskar, 1994). The mechanism can be anything and may not even be observable in itself – only its

effects are evident. In the remainder of this section, the identification of the potential generative mechanisms at work in the BPRN are discussed.

The CMI process consists of five actor group types, joined together through specific relationships. The actor groups are ‘External Social’, ‘External Artefact’, ‘Internal Social’ elements, ‘Internal Process’ elements, ‘Internal Technical Artefact’. These ‘labels’ represent ‘classes’ of actor types – both the single actor and the societal actor. Within each group there are the uniquely identifiable components, as shown in Table 15: The CMI BPRN: Node Type Identification Reference. These components interact through relationships with each other. These components are used to describe the CMI BPRN reconfigurations over time. In the causal map, these are shown in Layer 1 in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map (see page 110).

Resource network reconfiguration is triggered by both internal and external factors. The resultant network configurations show changes in both resource composition and relationship connectivity. The life-spans of each configuration are variable and appear to last only until any trigger stimulates change activity. Adjustments are then exhibited in the configuration of actors and their relationships. In the process evolution map, these are shown in layers 2, 3 and 4 in Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map.

There are six characteristics present in the CMI business process resource network evolution. These characteristics have emerged as a result of the triangulation of the narrative and visual mapping results for the BPRN. The articulation of the layers of events has enabled the inter-layer effects to come to light – and how events at one level affect the lowest level. These characteristics of evolution are discussed in relation to each characteristic identified.

4.7.1 Enduring Business Logic

Throughout all the morphing activity, the logic of the business process remains. At no point in its evolution does the process cease to function. The nature of the business process itself is one of necessity – FLS need to take on business in order to generate revenue. Changes – howsoever they are manifest in the BPRN, and howsoever they affect the resources or relationships within the BPRN – still have to obey the business logic. Thus the mechanism isn't one of a generative nature – only an operating condition.

4.7.2 BPRN Evolution & Environmental Uncertainty

The triggers for change are driven by both internal as well as external factors. There are thirty seven triggers in total of which 70% are identified as being of internal origin, and 30% of external origin. Despite the smaller percentage of triggers mapped to external influences, FLS undertake constant assessment and evaluation of the external environment. FLS call this assessment and evaluation their *"weather eye" (Interview: [6])* on the activities going on in the market place. This weather eye is important to them because not being able to serve clients or not having a fast enough response to conclude transactions has an impact upon billing. Billing impacts the revenue figures reflected in FLS' portfolio valuation. Consequently, FLS do not ignore the implications of outside world events on their business.

The internal triggers are weighted to three main drivers. These are the strategic initiatives identified as process focus, scale of capability, and business growth. This provides an internal framework for strategic direction. The internal triggers show alignment to each of the strategic initiative phases when they are mapped to the timeline. This suggests a level of certainty for the reason for resource network evolution rather than uncertainty.

However, the rate of change for the resource network (the duration of both the lag between the reconfigurations, and the duration of the configuration which is

enacted) is variable. Internal reconfiguration is unlikely to have taken place without the external triggers being present. Consequently, generating new or modified configurations of the business process resource network would not have happened. The rate of resource network reconfiguration would therefore be minimised. Such minimal disruption fosters stability between resources and their relationships because there is no rationale for change.

The existence of the internal and external triggers creates tension for the resource network configuration to maintain business logic. This is because reacting when the BPRN reacts to keep pace with and align with FLS strategy, it also has to be aware and be able to react to interactions with the external environment. The actor components within the network exist in a configuration which has to adapt to both internal and external forces whilst at the same time maintain the business logic of the process. This explains why FLS has to:

"build their systems and processes to deal with everything that is thrown at [them]" (Interview: [4]).

Without the activity in operational, strategic or external environment layers, there would be limited BPRN change in evidence. Environmental uncertainty is not necessarily a generative mechanism but it explains the operating circumstances of the evolutions. It is not the 'cause' behind activity, but it is a factor which influences how resources are placed or made accessible. Thus the link between environmental uncertainty and stakeholder intervention is made. The underlying factor is therefore 'environmental uncertainty'.

4.7.3 BPRN Evolution & Concurrency

There are several instances where reconfigurations of the resource network occur within the same time period. Many of the fourteen separate evolutions captured overlap in their durations. Table 26: Frequency of Concurrent Events shown below summarises the frequency of the overlapping durations of BPRN change activity:

Number of Concurrent Events	Frequency of Evolution	Percentage
1	10	**33%**
2	10	**33%**
3	6	**20%**
4	3	**10%**
5	1	**3%**
6+	0	**0%**

Table 26: Frequency of Concurrent Events

The table shows that 66% (highlighted) of the evolutions took place while others were happening. This concurrent activity took place over the entire timeframe. There are two periods of peak activity which were identified. These are shown below in Figure 39: Concurrency of Evolutions:

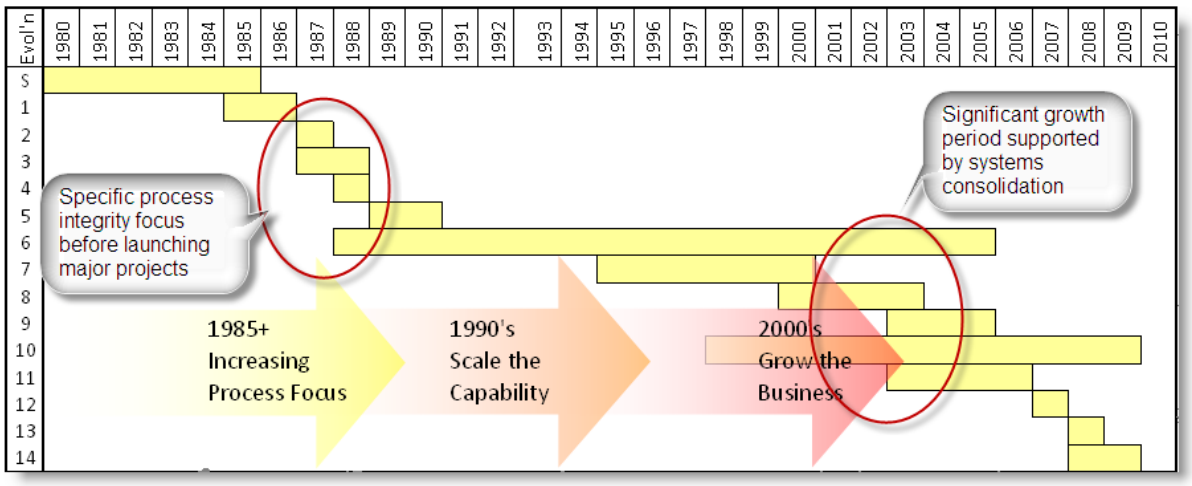


Figure 39: Concurrency of Evolutions

When the durations of the BPRN configurations are mapped to the timeline, there is no period of time in which there is no activity. This is a continuous state of evolution. The longevity of the configuration being in effect is shown by the bar length – the only point remaining undetected is the actual point in time at

which a relationship changed or at which an actor changed. What the bars then represent is the longevity of configuration when change activity occurs.

It is more a matter of how many evolutions are occupying the same time frame. There are two periods of overlapping which appear more densely populated over the time frame. The two periods of reconfiguration activity identified can be aligned with the business drivers present in the same time period. These peaks are ringed in Figure 39: Concurrency of Evolutions above. There is a period of approximately six years in which a maximum of two evolutions occur. This period relates specifically to the major technology projects – data warehousing and asset consolidation. These projects relate specifically to the scale of capability.

Concurrency is not a generative mechanism in itself – it is a feature of BPRN morphing where activity within the BPRN is affecting more than one resource of more than one relationship at any period in time. Concurrent activity is not 'generative' in the sense that it explains the observable overlapping time periods. Concurrency does however show that there is always some activity present in the BPRN over the time period considered.

4.7.4 BPRN Evolution & the Relevance Time and Timeliness

In this study, there is no basis for comparison with other legal firms, or other organisations. Consequently, it is not possible to determine whether transformations occurring during the passage of time are regarded as "slow" or "fast". However, the duration of change is recognised by FLS:

"…you need to remember that certain legal processes can take up to five years to change…"~ [7]

The suggestion that it can take five years to change indicates the pace of evolution for FLS. The CMI process itself exhibits reconfigurations which are enacted over periods of time which range from less than one year to thirteen

years. The pace of reconfiguration activity is therefore variable for this particular process in the circumstances and conditions present at the time.

The duration of each reconfiguration activity is summarised below in Table 27: Duration Frequency of Concurrent Events to show the distribution of BPRN reconfiguration:

Evolution Event Duration (in years)	**Frequency**	**Percentage**
1 year or less	5	**33%**
More than 1 year and 5 years or less	8	**53%**
More than 5 years and 10 years or less	0	**0%**
More than 10 years	2	**13%**

Table 27: Duration Frequency of Concurrent Events

The majority of all evolutionary activity (86% - highlighted) takes five years or less to occur. There is no evidence to suggest that certain trigger sources cause longer durations of evolution since both internal and external triggers for change are present. However, the frequency of reconfiguration and the number of concurrent reconfigurations to the resource network increases from the late 1990's. In other words, the time lag, or delay, between reconfigurations becomes less and less.

The more frequently occurring, concurrent short-lived configurations align with the strategic business drivers of "process focus" and "grow the business". The reconfiguration activity for the CMI process is also reflected in the increasing portfolio value (the revenue data). The continuous adjustment of the process means that revenue recognition to the portfolio is more speedily achieved. The less the delay, the quicker the expectations and results are met. The time interval between changes to the resource network– the lead time – is therefore variable.

As with the concept of 'concurrency', 'time' and 'timeliness' do not appear as generative mechanisms which explain BPRN morphing. Rather they appear as

conditions of continuous morphing, not the underlying reason for the way in which the BPRN behaves over time.

4.7.5 BPRN Evolution & the Relevance of Network Bond Strength

The bond strength indicator identified between the actors in the resource network shows the nature of the interdependencies present. The interdependency is classified according to the importance of the information content, and the timeliness of that content exchange (Grandori and Soda, 1988). The resource network shows a number of instances where this interdependency changes as the timeliness of the exchange becomes more, or less, important. Likewise, the importance of the information flow is also shown where the tie type changes between actors.

As the resource configuration evolves, many of the relationships change their dependency types. One example of this change in dependency is shown when a Type 2 ('disjointed' dependency) becomes a Type 4 ('intensive' dependency). This example is particularly relevant for the change in relationship between technology related actors. In the CMI network, the technology actors are grouped together. As the relationship between the technology grouping and other actors becomes intensive, the dependency upon the technology actors to perform or respond increases. This change in relationship dependency makes the bond harder to break and a level of inflexibility between the actors is evident.

Where connections become more intensive, there is a further complication that arises. There is a specific instance within a particular process-to-process relationship which is subject to two timing issues. Firstly, the normal mode of operation for CMI facilitates the Book and Bill process information exchange against the case load. This generates portfolio data. This mode provides a reciprocal tie between the booking process and the portfolio update process.

Secondly, the alternative mode of operation highlighted in the course of the interviews is that of ‘period end processing’. This is a business function which relies on certain information exchanges only for a specific duration. This is because reliance upon specific relationships becomes critical in order to ensure the accuracy of data. The criticality of the relationship is based on the dependency upon the central data warehouse in the technology layer. This is already identified as time and information critical. The relationship link assumes even greater importance in this period end processing. The tie becomes a Type 4 from a Type 3 but only for a limited duration. The tie type has a variable lifespan in this instance.

Connectivity through bond strength variability also facilitates the evolution of the resource network. Less intensive information sharing enables social elements to connect at join points. This is evident through the creation of practice teams and coalitions of specialists in the development of FLS’ responses to requirements. Information routing through the network allows other processes to benefit from the information exchanges. Additional processes join the resource network as the information flowing through the CMI process becomes important for other areas. This is evident through the social-to-process and process-to-process joins such as information processing exchange between Book & Bill and the inputs to Portfolio Administration.

In addition to bond strength connectivity supporting the development of the network through information-routing, bond strength also affects the physical artefacts engaged in the CMI process. One example of bond strength in relation to artefacts is the central data warehouse. This is connected via the referral process through an intensive information exchange relationship. The increasing importance of this resource makes it less likely to be disconnected from information exchanges.

By contrast, there are many artefact-to-artefact moves which are evident in the CMI resource network. These moves are shown when common types of

artefact are grouped together for ease of administration or operation. The consolidation of technology platforms and systems which host data are examples of network reconfiguration – sometimes through joining, sometimes through separation. In these instances, the information exchange is less important. However, the ability to share the resource for more than one process makes the reconfiguration of the resources engaged in the network justifiable in financial terms. Sharing of resources enables FLS to allocate the cost of operations across a wider asset base in the organisation.

In essence, bond strength in the BPRN serves to ensure the business logic is upheld by holding the resources in relationships. Bond strength varies over time. Certain relationships assume more prominence than others at certain times (eg financial reconciliation).

Yet all the BPRN changes are facilitated by variable bond strength – especially where less intense relationships between resources are noted. Thus the generative mechanism is noted as ‘bond strength’.

4.7.6 BPRN Evolution & Purposefulness

Certain stakeholders call for a number of operational adjustments to the configuration of the CMI resource network throughout the timeline considered in this study. There are four specific reasons for stakeholder intervention in the composition and configuration of the resource network. Firstly, to increase CMI effectiveness by ensuring data quality and referential integrity is maintained. This is achieved through managing the resource relationships, specifically their interdependencies for information routing and time sensitivity for content-significant information exchanges. Secondly, to ensure the CMI process can continue to operate by eliminating single points of failure. This makes the process more resilient where information exchanges can be easily modified through social-to-social contacts.

However, information flows through process-to-process relationships are less modifiable as these are often automated. Clearly defined information content exchanges are required to ensure that process-to-process dependencies can support any revised information flows. Thirdly, adjustments take place to the resource network to enable FLS to deliver a CMI capability which can be adopted on a global basis. The configuration of the technology based resources is arranged to support capacity for processing (and thus support greater usage).

Finally, stakeholder intervention in the resource network occurred as a result of dissatisfaction with the CMI process. There are two reasons for this dissatisfaction. Firstly, the integrity of the process was questioned in the audit reports. This was because the direct information exchange relationship between the legal subject matter expert and the portfolio administration process meant that SME's were able to directly manipulate the portfolio value without any governance or oversight. The resource network was specifically reconfigured to disconnect resources and reroute information to ensure referential integrity.

The second reason for stakeholder dissatisfaction is where the CMI process performance (the outcome of the CMI process) is questioned. There is a clear link between intervention and expectation of satisfactory outcome. The success of CMI is measured through the increasing numbers of clients and the value of the fee revenue achieved. As a business process, CMI directly affects portfolio:

"Portfolio is key. When that's not right, we act…[because] when the CEO is happy, we're happy. If he's not… we fix it!" (Interview: [8]).

All CMI performance data is reflected in the portfolio at group level. The group portfolio falls under the direct remit of the CEO. Dissatisfaction with the performance of the CMI process *("when stuff goes pear-baloney-who-ha")* leads to *"rejigging"*, *"recutting"*, and *"glueing" (Interview: [4], [7] and [9])* of the process.

Rejigging, recutting or glueing creates temporary resource network structures. These structures change when stakeholders intervene to change the configuration of resources, or change the dependencies between the information routes, or change the content of the information exchange. However, until dissatisfaction is present (for whichever reason), the CMI resource network configuration endures in any one pattern until stakeholder intervention occurs. The interventions only occur when expectation is not met:

"…don't fix if it isn't broken" (Interview: [4]).

The generative mechanism which seems to explain the rationale behind certain BPRN activity is that of 'stakeholder satisfaction'.

4.8 Findings Summary

The Client Matter Induction process exists as a business process resource network. Its configuration of resources has evolved through deliberate, directed action and reaction to internal and external triggers. The configuration is determined simultaneously by three factors:

- the environment in which the organisation operates;
- the internal resource constraints (composition, configuration and connectivity); and
- the expectations of performance of the resources engaged in the process.

All configurations remains static until intervention for reconfiguration occurs. Intervention is instigated by internal definitive stakeholders who call for urgent, direct and necessary adjustment.

The CMI BPRN evolves by means of specific operational adjustments. These occur over varying periods of time. Many adjustments happen concurrently. Many adjustments relate specifically to interdependencies between specific actor types within the resource network. Some interdependencies have specific timing constraints which alter their connectivity bond strength.

The business logic of the CMI process endures throughout the evolution of the resource network. This ensures the process inputs and outputs continue to perform as expected. Content-critical or time-critical exchanges are routed through dependencies to ensure the correct operation of the process. When information flows change to accommodate revisions to process (such as connection of new process), other processes and social actors in the network are affected.

There are no 'backward steps' to route information along defined pathways. Nevertheless, new business logic which ignores revisions to content-sensitive or time-sensitive exchanges prevents effective operation of the CMI process.

The resource network exhibits two specific operational adjustment mechanisms. Firstly, there are deliberate extensions of the resource network. These extensions occur between social, process and technology actors in the network. The extensions make use of join points to create network bridges to other resources. Secondly, the connectivity between resources is adjusted to reflect the time-sensitivity and content-criticality of the exchange relationship.

These adjustments are enacted in conditions of environmental uncertainty. The triggers are both internal and external and the trigger occurrence rate is variable. The adjustment rate in the twenty five year period shows many of the CMI evolutions are concurrent. The resource network is subject to multiple interventions, and the resultant lag times between new configurations vary in duration. However, the findings suggest that decreasing delays in reconfiguration activity are preferable.

Thus every layer of the CMI BPRN Causal Map has been examined by adopting Snook's (2000) approach. The findings are presented as an integrative way of seeing events, activities and entities across the FLS organisation. The 'true context' of the CMI BPRN evolution is viewed as "a simultaneous consideration

of main and interaction effects at several levels" (Rousseau & House, 1994, p15).

As Langley (1999) notes, the interesting point to note in process data is that the interaction of a relatively small number of simple elements may generate complexity. The strategies of exploiting the 'narrative', the 'visual mapping' and the 'temporal bracketing', support the use of causal mapping (Snook, 2000). And yet, as Langley (1999) notes, these are but superficial means to make sense of process data. Their combined use brings greater accuracy through contextualised richness in understanding the data.

By the same token, to understand the evolution of the BPRN through network measures alone (centrality, closeness, node inter-relatedness), only presents one level of understanding. Such measures do not further inform the ways of acting of things. Rather such measures serve only to inform the structural nature of the network, not the nature of the network composition or the strength of relationships. Consequently, presenting a 'network measures' view of the BPRN evolution is limiting in its explanation.

The strategies adopted from Langley (1999) are sufficient to provide insight and offer the means of exploring the data. But they are insufficient on their own to present all the data in a meaningful and contextualised manner. Similarly, network analysis tools to generate 'measures' are useful not but not insightful or contextualised in supporting the BPRN evolution.

Only when the network structure is examined through its composition and configuration, and its contextualised events in their respective layers, does the BPRN evolution make sense. And it is the use of the causal map framework (Snook, 2000) which has facilitated the understanding of the sequences of events which have occurred over the time period from each layer. By describing each layer of the causal map, the CMI BPRN is articulated as a 'laminated system' (Bhaskar, 2006). Each layer of analysis reveals the

indispensable units for understanding the complex, multi-level activity of BPRN evolution.

In summary, this chapter has documented the findings of the study of the evolution of the CMI process within FLS. The organisation itself is described in relation to its specific operating environment and competitive pressures. The composition, configuration and connectivity of the resource actors engaged in the CMI process is described in detail, along with the triggers for change. The impact of change is discussed as it relates to reconfiguration of the resource network. Furthermore, the timescales for the evolutionary activity are discussed to bring to light the importance of pace, concurrency and delay.

There are six specific characteristics which are directly associated with the transformation of the CMI BPRN. These are presented as 4 factors which are present, specifically:

- environmental uncertainty;
- concurrency of reconfiguration activity;
- relevance of time as a measure of transformation; and
- enduring business logic

These factors represent the ‘circumstances’ of transformation.

There are 2 generative mechanisms identified, specifically:

- bond strength;
- purposeful evolution through stakeholder intervention;

These generative mechanisms are identified as the ‘real’ reasons for the actual instances of the observed events (Bhaskar, 1978). The ‘ways of acting of things’ (Latour, 2005) are influenced by these characteristics. They explain the underlying mechanisms for evolution within the BPRN.

These features of BPRN morphing are discussed in greater detail in Chapter 5.

4.9 Chapter Summary

In this chapter, the principle findings of the exploratory study were discussed. This chapter, structured around the mapping of the CMI process evolution, discussed the data gleaned in this exploratory study. To begin, the organisational setting and specific business environment for First Legal Services (FLS) was described. Next, the BPRN of the Client Matter Induction (CMI) process was described. Then, using the process evolution map, each layer of analysis was reported to describe the BPRN evolution.

The events, experiences and empirical data are documented to present the description of this laminated system (Bhaskar, 1994). Mechanisms and triggers for microstate morphing are identified. Finally the chapter concludes by presenting specific characteristics of BPRN transformation

In the next chapter, the evolution of the CMI BRPN is discussed in relation to the ‘phases’ identified in the process evolution map. The characteristics of BPRN evolution will be discussed to develop a model for BPRN morphogenesis.

5 DISCUSSION

5.1 Chapter Introduction

In this section, the findings from Chapter 4 are discussed in relation to the extant literature in order to develop theoretical propositions. The chapter begins by summarising the relevant theories, and noting the specific deficiencies addressed by this research.

The discussion begins by drawing together the theoretical principles from the resource based view, actor and social network theory and stakeholder theory. The findings from the study are discussed in relation to the principles identified from literature. The principles frame the development of propositions in relation to the specific transformation characteristics identified from the evolution of the CMI BPRN. Finally, the propositions are drawn together to construct a theoretical model of actor network transformation.

5.2 A Brief Review of the Underpinning Theoretical Framework

The extant literature informs us that organisations that develop dynamic capabilities to address continuous change are more likely to survive in turbulent environments than those which do not (Brown and Eisenhardt, 1997; Teece et al, 1997; Biedenbach and Soderholm, 2008). The argument for dynamic capabilities rests on managing the reconciliation of internal resource structures with external pressures. Resource structures which exhibit sufficient dynamic capability enjoy increased longevity of transient advantage (Brown and Eisenhardt, 1997; Eisenhardt and Martin, 2000), and 'networks' represent one such resource structure (Smith, 1968; Stacey, 1995; Kauffman, 1996).

Yet literature on networks seldom considers more than one type of actor, or the scale of actors, engaged in a network. Moreover, the literature seldom addresses units of analysis beyond social groupings. Whereas resource based theory address dynamic reconfiguration through groupings of resources at firm

level, little is known about resource structure evolution beyond firm or departmental level consideration.

As a result, the COT literature which describes actor network transformation at the microstate level of analysis is underdeveloped. Specifically, scholars fail to describe how and why specific actor networks emerge, develop, change, die and even disappear. The rationale for actor network evolution is also unclear.

Furthermore, there is also a lack of description for examining how such microstate morphing occurs, let alone any identification of generative mechanisms.

5.3 The Research Question

As a result of the theoretical deficiencies identified, the research question posed was:

How do BPRN morph over time?

To answer this question, and following MacKenzie's process-led approach, additional questions were defined to support the answer to the question. These questions were:

- What are the resources involved in performing the business process?
- How are these resources identified and described?
- What relationships exist between the resources in this network?
- How is this resource network changing and why?
- What method can be used to explore this phenomenon?

This study addresses this gap by describing the transformation of the resources in a specific actor network, namely the Client Matter Induction business process. The dynamic behaviour of the actors and relationships comprising the actor network are described by using core concepts from four theoretical perspectives: resource based theory; social and actor network theories; and

stakeholder theory. These theories provide the foundation for understanding the 'dynamics' of actor network evolution. Moreover, the multi-theoretical approach is supported by a combination of research strategies defined in the Methodology.

To begin, the exploratory study is discussed in context.

5.4 First Legal Services: The Context for the Client Matter Induction (CMI) Process

The CMI process is the engagement point through which business is conducted in FLS. The process comprises a specific resource network of different actor types engaged in performing the CMI function. The actors are social agents such as clients (external social actors), legal subject matter experts (internal social actors) or a specific social group such as a practice area of experts. There are also non-social actors which participate in the business process. Legislation or regulatory documentation are examples of external non-social actors. The 'information content' from this type of non-social actor is used in the exchange relationships within the business process network.

Other artefacts include the case history records (physically stored data), and the case library (now a fully automated information system for digital storage of legal and client case information). These are instances of internal artefacts. Additionally, the label 'internal artefact' is also used to represent other systems such as the Central Resource Administration System or the central data warehouse. These systems have their own business processes but are related to the CMI process because of their information exchange relationships.

Finally, there are other processes which are related to the CMI business process. Processes such as 'Book and Bill' or 'Portfolio' have their own network of resources. However, there are specific relationship interdependencies between these processes and the CMI process. The interdependencies are determined by the inputs and outputs required for exchange in order to perform

the function of taking on client business. The interdependencies between the actors are content sensitive or time sensitive, or both.

The duration over which the CMI process has evolved spans a 25 year period. Within that time, there have been 15 resource network configurations identified. Using the visual mapping strategies (Langley, 1999; Snook, 2000), the causal map was developed to illustrate the morphing nature of the CMI BPRN.

The prompting stimuli behind the configuration changes have been identified as trigger events. Specifically, there are 4 types of external trigger and 9 types of internal trigger which prompt adjustments to be made to the CMI process. The following sub-sections describe the characteristics of these adjustments and how they contribute to transforming the resource network.

5.4.1 The Environmental Parameters of the Actor Network Transformation

Emery and Trist (1965) describe characteristics of turbulent environments using three conditions. Firstly, there are increasingly interdependent relationships between actors within the organisation. For the CMI business process, such relationship interdependencies are shown by the changes in the relationship types between the actors as well as changes in the types of actor present within the network.

For example: sequential relationships become reciprocal relationships as information exchanges become bi-directional. This occurs in the case referrals between external clients, legal subject matter experts and information retrieval from case libraries. There are an increasing number of connections to related business processes which interact with the CMI process. For example: the CMI process exchanges information with Book and Bill, Central Resource administration and Portfolio administration. These are the activities noted in Layer 1 of the Causal Map (see Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map).

Secondly there are interdependencies with the environment itself where FLS is prompted to engage with many sources of change. Examples of this engagement include:

- new and existing clients who seek advice from FLS when they are affected by legislation;
- or when a new directive is issued from regulatory bodies, FLS seek to understand industry agendas which determine the legal advice to be dispensed;
- or when FLS is engaged to co-ordinate a client's increasingly complex contractual arrangements with clients' sub-contractors or suppliers for performing business functions (such as outsourcing).

These sources of change are not subject to mutually exclusive timing - they can all occur within the same time frame. These activities are typically exhibited in Layers 2, 3 and 4 of the causal map.

The third condition identifying turbulence in environments is that of an increasing rate of change present (Emery and Trist, 1965). Over the 25 year period considered in this study, there were 37 occurrences of trigger events which prompted FLS to react (please refer to Figure 37: CMI BPRN Triggers Frequency). Of these 37, 26 relate to the 9 identified internal trigger types, and 11 relate to 4 external trigger types for adjustment. Additionally, identification of the strategic thrusts (Focus on Process, Scale the Capability, Grow the Business) from the FLS strategy documentation means that the transformations can be related to the overall evolution of the firm.

The sequence of network transformations shows that at the start (Configuration Start), an internal and an external trigger was present. The subsequent transformations (Configurations 1 through 10) relate only to internal triggers. The mapping of these triggers to the configurations (please refer to Table 24:

CMI BPRN Mapping Evolution Triggers to Evolution Activity) suggests that a series of internal adjustments was initiated as a result of an initial external event. The latter configurations (11 through 14) show that both internal and external triggers were present. The result of the occurrence rate (37 triggers in 25 years) presents a requirement to change more than once a year.

Whilst the greater volume of transformation activity is attributed to internal reasons (refer to Figure 37: CMI BPRN Triggers Frequency), more relationship and composition changes are attributed to external pressures (configurations 11 through 14 showing changes to social joins, additional process joins, and dependency upon technology).

Although the events which relate to external sources are outside FLS's control, their response capability stems from maintaining their "systems and processes to deal with everything that is thrown at us"(Interview: [5]) by keeping a "weather eye"(Interview: [5]) on events. FLS responded to events by making specific adjustments to the resource network whenever a stimulus for change (internal or external) was present in order to "... keep up, catch up, or stop screw up"(Interview: [5]).

There are no periods of time in which there is no reconfiguration activity – it is more a question of how many concurrent events are in progress (please refer to Table 26: Frequency of Concurrent Events and Figure 39: Concurrency of Evolutions). This suggests that FLS is maintaining the business operation through"... many systems to make just one process work..." (Interview: PD) while recognising the unpredictability of the environment by keeping their "...eyes and ears open all the time"(Interview: [8]). FLS do not "regard [themselves] as successful if [they] can't address what's going on"(Interview: [8]). Concurrency of trigger events and the concurrency of transformation activity are discussed in later sections.

Two conclusions are drawn from this discussion:

Firstly, that FLS is continuously transforming its resource network to manage interdependencies with other business processes. FLS describe managing "...many systems with interdependencies...dependencies with limited exchanges..." (Workshop Participant). The logic of the business process endures despite the turbulent conditions of the business environment – the 37 triggers for change:

"... those things [the environmental pressures which trigger the requirement to change from many sources] haven't changed, it's just the rate they come at us.. And of course that means we have to react.." (Interview: [5]).

Secondly, that FLS's rationale for undertaking continuous transformation with these concomitant conditions is because the transformation leads to favourable outcomes. This is because stakeholder expectations are embedded in the performance of business processes. When the process:

"... goes pear-baloney-who-ha, what do we do?... We bloody well fix it is what we do. There's a CEO who gets really upset and he does, trust me on this, call the shots. We'll rejig lines of business, move subject matter chappies about, recut portfolios to bite size chunks and glue back in the business process"(Interview: [9]).

Positive outcomes stem from managing the resources engaged in the business process effectively (shown by increased revenues and portfolio value). The resultant transformations of the resource patterns are:

"..like an ecological adaptation of both our human network and our technology components... they evolve to meet our changing business needs..."(Interview: [6]).

The analysis suggests that FLS is engaged in continuously morphing the CMI process. Since morphing considers how ongoing transformations of resource configurations encompass and reconcile organisational form, function and environment (Rindova and Kotha, 2001), it is proposed that:

P1: The greater the level of environmental uncertainty, the greater the level of morphing

Dynamic capability that enables strategic flexibility is not a new concept (Garud and Kotha, 1994; Sanchez, 1995; Eisenhardt and Martin, 2000). Similarly, there is increasing recognition that the combination of social and technical systems contributes to generating transient advantage (Garud and Kotha, 1994; Rindova and Kotha, 2001). What is new in this study is the micro-level unit of analysis – the microstate morphing shown in the BPRN- which demonstrates dynamic capability. Thus P1 is identified as factor for BPRN transformation.

5.4.2 Concurrent Transformation

One of the characteristics identified in this study is the concurrency of transformation activity within the resource network. Internal triggers for change occur at the same time as external ones. The resultant transformation activity in the resource network addresses the simultaneous occurrence of these triggers. This concurrency is a contributory factor to environmental turbulence (Emery and Trist, 1965).

The resource network is balancing 'business as usual' activity with the increasing demands of the environment. Small, internal changes to the network structure contribute to an increase in productivity or efficiency. At the same time, external pressures also induce transformation activity. Addressing such internal and external environmental pressures creates adaptive tension (McKelvey, 2004). Reconfiguration activity adjusts the network composition and configuration to maintain business process operation:

"an ecological adaptation of both our human network and our technology components... they evolve to meet our changing business needs"(Interview: [6]).

The concurrency of the reconfiguration activities is an example of the “edge of chaos” characteristics (Stacey, 1995; Dooley, 1997) present in adaptive systems.

There are fifteen configurations of the CMI resource network which are generated over the 25year period. These configurations emerge as a result of addressing thirty seven internal and external triggers. The durations of each transformation sometimes overlap, and involve different actors or relationships. The reconfiguration activity also addresses more than one trigger. In this study, there is always some level of activity in progress. This suggests that the level of morphing activity is related to the level of stimuli which induce change. The next proposition is therefore:

> ***P2: The greater the number of concurrent triggers, the greater the level of morphing***

P2 is also identified as an operating condition for BPRN transformation. Were these conditions to lessen in any way, the evidence suggests that the levels of change activity in the BPRN would be less than noted.

In the next section, the evolution of the BPRN is discussed in greater detail to uncover the generative mechanisms present. To begin, the theoretical deficiencies of COT are revisited.

5.5 Addressing the Theoretical Deficiencies in COT

Five deficiencies were identified from the COT literature, specifically:

D1: describing the Business Process Resource Network

D2: describing resource structure evolution

D3: describing resources

D4: describing resource relationships

D5: describing the rationale for continuous transformation

The following section is structured to consider these deficiencies and the exploratory case has addressed them.

5.5.1 D1: Describing the Business Process Resource Network

Organisation Theory describes business processes as 'routines' (Feldman and Pentland, 2003). Routines are described as "generative systems with internal structures and dynamics" (Pentland and Feldman, 2005: p793). As noted in Chapter 2, business processes continue to be examined in terms of purely social, or material in the literature. The routine is viewed in terms of its performance, not in terms of the material components which constitute the process and act out the performance of the routine. In short, the literature doesn't describe the specific resource structures which comprise the process, nor offer a means of description for resource structure evolution or rationale for resource structure evolution.

For these reasons, Organisation Theory was discounted as it failed to offer a means of description or offer a theoretical premise on which to base an understanding of microstate morphing.

Nevertheless, other theories and bodies of knowledge offer ways to explain microstate morphing through business processes as networked resource structures.

5.5.2 D2: Describing Resource Structure Evolution

COT literature describes adaptive systems and resource structures but does not articulate how such structures actually evolve. In Resource Based Theory (RBT) resource structures are created to create temporary structures which generate transient advantage. Despite the literature on dynamic or combinative capability, or firm level morphing, there remains a void in actual description for the resources themselves and their inter-relationships. Temporary resource

structures are considered at the firm-level, and are described in terms of ‘dynamic’ rearrangements. But, the resource structures are not discussed at any level other than “firm” or “department”, and not at ‘micro-levels’.

McPherson, et al (1992) suggest that changing resources within the resource network itself contributes to structural evolution. They assert that network composition changes over time under two conditions. One, change occurs where the predominant relationship types between network nodes are weak. Two, relationship connections which span more than the immediate network facilitate movement of resource between networks.

Movements and changes also apply to non-social elements of actor networks. Such movements and changes are exemplified when relationships to technological assets or other networks of specific resources are created. Changing the nature of resource connectivity through relationships, or changing the resource itself therefore changes the way in which the network of resources operates as a system - the ‘durable whole’ as described by Latour (2005).

The characteristics of network adaptability (exploiting connectedness, tie strength variability, and bridging) thus facilitate evolution of resource structures (Granovetter, 1982; Grandori and Soda, 1998; McPherson, et al, 1992). As a result, resource networks are able to acquire other resources and develop combined structures (McPherson, et al, 1992). In other words, these network characteristics enable adaptive capability because they support the development and transformation of resource configurations (Stacey, 1995).

However, COT literature doesn’t describe resource network evolution. Networked arrangements of resources are described using principles established in Actor Network Theory (ANT) (Law, 1992; Latour, 2005) and Social Network Theory (SNT) (Tichy, Tushman and Fombrun, 1979; McPherson, et al, 1992; Granovetter, 1982; Grandori and Soda, 1998).

The evidence from this exploratory case offers the following explanations.

5.5.2.1 Composition and Configuration Features of Resource Network Transformation

In ascribing agency beyond social actors, the existence of different actor types, and the existence of relationships between differing actors, is possible (Callon and Law, 1989; Law, 1992; Latour, 2005). ANT enables description of the network infrastructure, and the mechanisms that maintain its structure (Law, 1992; Latour, 2005). Yet adaptation and transformation in actor networks is seldom described through ANT itself. Evolution of composition and configuration is limited in description to "...emerging...deliberately or otherwise" (Law, 1992: p21).

Since ANT lacks the descriptive capacity to explain transformation, Social Network Theory is used to describe the dynamic behaviours of the resource network. Specifically in this study, resource structure evolution is described through two means. Firstly, network transformation occurs through changing nodes (i.e. changing the actors which comprise the network (McPherson et al, 1992). Secondly, network structure evolution occurs through changing relationships between nodes (i.e. changing the nature of the interdependency between the actors in the network (Granovetter, 1973; Nelson and Matthews, 1991). These ways of acting result in the CMI resource network exhibiting changes in both composition and configuration. These changes are discussed in greater detail below.

5.5.2.2 Transforming the Resource Network Composition: Change the Node

McPherson, et al (1992) argue that network composition changes over time under two conditions. Firstly, change occurs where the predominant relationship types between network nodes are weak. Secondly, relationship connections spanning more than the immediate network facilitate movement of resource within networks.

The findings show two examples of node changes within the CMI resource network. Firstly, there are technology developments which enable resources to be substituted as replacements for existing nodes. One example of this substitution is the replacement of individual case history files with a consolidated case history library. The library becomes an actor representing a collection of previously individual actors. The same actor (the case library) undergoes a second substitution by having its content migrated to an alternative means of provision – a data warehouse. The library still exists as a physical reference however the content is held electronically.

The data warehouse actor has evolved into a centralised information store and presents the network with a capability to support more functions:

"if we have a new process, or a new system coming, we make a join to the warehouse... Like all roads leading to Rome. All flows lead to warehouse"(Interview: [9]).

Changes in the number of relationships to this actor occur as it is now capable of facilitating a greater number of exchanges. This node change – from single case file to consolidated case file to electronic records in a centralised repository) are frequently managed under the guise of technical migration projects. The actor in the network is subject to a series of replacements as technology becomes available to support the actors' function within the network:

"...the task we have is to migrate all these different data bases to a single common system"(Interview: [9]).

The network relationship between the central data warehouse and other actors is noted as an intensive (type 4) relationship. It is noted as intensive from the start point in 1985 and remains so for the duration of the time line studied. Yet the resource acting in that position changes it form and increases its function. This contradicts the view from McPherson et al (1992) who argue resource changeability on the basis of weak ties. Despite the intensive, strong type 4

relationship, the resource actor still changes (or is changed) to enable the process to continue more effectively.

The second example of node changeability is shown by the social actors. Wherever there are social actors who engage with the outside world – the external sources of change – then FLS places appropriate human resources to manage the relationship. This means that Legal SMEs are placed to respond to client requests, or Market Advisors positioned to accept legislative artefacts.

Specifically, the findings show how a Market Advisor will generate a social network to create a practice group. Once the practice group is established, the Market Advisor takes a less prominent position. A Legal SME assumes the position for the first point of contact, supported by the practice group. The Market Advisor remains in touch with the practice group through a disjointed (type 1) relationship, while the SME network assumes greater reciprocal exchanges (type 3).

McPherson et al (1992) argue that relationship connections spanning more than the immediate network facilitate movement of resource within networks. The findings show that certain resources move to create clusters, or sub networks. One such cluster is the formation of the practice group: Legal SMEs coalesce to form a specific cluster which acts as a single entity. The cluster endures as a point of referral, yet the individuals comprising that cluster come from many different areas from within FLS. FLS note that:

"... there's no reason why they [off-shoot social networks] cannot evolve, we have the capability to create specialists,.. but we don't form splinter groups... we would be in chaos" (Interview: [9]).

Another cluster which develops through movement of resource is that of the technology used to support the process. The grouping together of these technical assets creates layers of technical resource which act to support the business process:

"...we have multiple systems.. Same process, multiple places. Many of the same systems. Of course we try to consolidate the number of systems; we are managing all these technology pieces in lots of place . So we try to work out how to group them all together , or at least manage them all together to make our job more easy.

[H: So are you saying you pulled resources together to try to make the running of the process more efficient?]

P: that is it. I mean it makes sense for some things"

(Interview: [9]).

The clustering gives rise to the capability to support additional processes – identified through joins. Joins are discussed in a subsequent section.

The examples above show how the composition of the resource network changes as different actor types occupy node positions. The network also shows adaptation when relationships between the actors within the network change. Relationship alterations which lead to structural alternatives for the configuration of the resources are discussed below.

5.5.2.3 Transforming the Resource Network Configuration: Change the Relationship

Gandori and Soda (1998) describe the nature of relationships between network actors using two attributes (please refer to Table 35: Business Process Resource Network Relationship Identification). Firstly, they identify the importance of the information being passed (its criticality). Secondly, they identify the importance of timeliness in the passing of information. These attributes provide a means to describe bond strength between actors within the network.

The structural development of the network relationships occurs through three means. Firstly, there are new relationships which are created as information

flows are directed to actors, both within the existing resource network and in other networks. Secondly, the relationship between actors is subject to change as the importance or timeliness of the exchange relationship alters. Thirdly, relationships may dissolve between actors as information flows become redundant. Examples of these structural changes in relationship are discussed below.

New relationships are created as information flows are directed to actors. The implementation of the central data ware house has made it possible for other exchange relationships to take place. Other exchange relationships support other business processes such as 'Book and Bill'. Actors engaged in other networks are able to exploit the central data ware house by routing information exchanges. The data ware house becomes a virtual resource since it does not materially move, yet other processes 'connect' as information flows to support those other requirements. For example, in Configuration 10, the Contracts, Resourcing and Book and Bill processes are all shown with created ties to Portfolio and to the Planning Directorate. Contracts and Resourcing are not integral to the CMI process yet become related to ensure the integrity of the CMI process.

The second type of relationship change is through changes in the tie 'strength' between actors in the resource network. Using the notation from Grandori and Soda (1988) to classify the tie type, the data from the Network Capture Template for each resource network pattern shows tie strengths as they change over time. For example, between Configurations 2 and 3, the relationship between the Legal SME and Portfolio changes from a type 3 connection to a type 1 connection. This change shows the reciprocal flow of information between the SME and Portfolio being reduced to an information update where no dependency exists.

A second example of the change in relationship strength is shown between the Book and Bill process and the Portfolio. This is a process-based information

flow change shown in Configurations 4 and 5. In this instance, the tie strength changes from a type 2 to a type 3 relationship. The type 2 sequential relationship indicates the dependency of Portfolio upon Book and Bill to ensure timely updating. The change in relationship to a type 3 reciprocal tie shows the recognition of information feedback which results in adjusting the operation i.e. the content of the exchange becomes important.

Another example of relationship change is shown when the Portfolio to CEO tie type changes from a type 2 to a type 4 (shown in Configurations 4 and 5). This indicates the recognised change in importance of the timing as well as the content of the information exchange. As the internal definitive stakeholder, the CEO is placed to intervene urgently when the CMI business process does not meet expectations. Expectations are managed through the updating of the CEO from Portfolio data.

Bond strength can also be reduced as less reliance upon information exchanges occurs. There are 2 instances of this reduction:

Firstly, the reciprocal (type 3) relationship between the Legal SME and Portfolio is reduced to a disjointed information only (type 1) as the audit and compliance intervention removes the ability of the SME to influence the data posted to the portfolio.

Secondly, the information exchange between the Legal SME, the Market Adviser and cluster of SME Network actors changes as the reliance upon the Market Advisor to provide reciprocal data to all parties is reduced.

The final instance of bond strength variation occurs where an information exchange takes on greater importance in timing or content but this increased importance is temporary. This was identified from the findings where the ‘Period End’ reporting relies on data availability from the Central Data Warehouse for financial year end accounts. At all other times, data availability for processes is less critical. The strength of the tie is reduced from being an

intensive (type 4) to a reciprocal (type 3) bond as the information exchange timing becomes as important as the content.

There are also instances where the bond 'dissolves' between actors as redundancy of the relationship is recognised in the operation of the process. The first occurrence of this is the removal of the SME influence over the Portfolio where the relationship type changes from 3 to 1 and finally no relationship at all. The same information however (value of client bookings) is available through the Book and Bill process.

These variations in bond strength show how the management of the information exchanges (their timing and content) are part of the evolution of the CMI business process. The changes identified above all occur in the earlier part of the process life line. As the information flows become more established, new relationships are created to benefit other business processes. This is shown by the increased number of type 3 (reciprocal) and type 4 (intensive) relationships. According to Nelson and Matthews (1991), high performing organisations typically exhibit high numbers of subsystem strong ties. By defining the CMI process as a subsystem of FLS, the high number of strong bonds present in the CMI process (10 out of 14 ties present in the current Configuration 14) suggests that the CMI process contributes to FLS as a high performing process

5.5.2.4 Transforming the Resource Network Configuration: Closing Structural Holes

Both SNT and ANT describe network propagation through membership of multiple networks. Granovetter (1982) describes propagation through network bridging - that is, membership of multiple networks at specific points within the network through weak ties. Callon (1986) suggests that all actors participate in several (perhaps conflicting) networks. Joins within networks create new interdependent relationships. Additionally, joins created to specific resource nodes serve to close structural holes (Burt, 1992) creating node dependencies.

The resource network shows node joins technology assets are pooled as a cluster of similar asset types. The rationale behind this clustering of resources is economic: FLS have:

"..the overhead of multiple systems instead of one. Secondly, the data is mission critical and we need to manage it centrally" (Interview: [9]).

This clustering of resource types aligns with the strategic thrust to "Scale the Capability", identified in FLS' strategy documentation where the desire to develop "technology capability to support and enhance our existing business model..." (Document: Strategy Briefing: April 1992) and "asset reorganisation to support the evolving business model" (Document: IT Strategy: September 1994) is stated.

In addition to node joins between internal technical assets, process information flows also develop ties to assets. In this way, related-but-not-integral processes make use of the same technological assets. The current CMI resource network shows three related business processes with dependency upon the technology cluster: Referrals, Book and Bill, and Portfolio performance reporting. Moreover, interdependencies between the technology layer and other processes reduce the financial running costs for FLS. The cost of ownership is distributed to other process and asset owners in addition to CMI's stakeholders.

In addition to the technology-based joins and process interdependencies, there are social cluster joins. Social clusters form in response to incoming requirements, either at the behest of the Market Adviser, or specific issuance such as legislative guidance. The social cluster is a subject matter expert practice group which coalesces specifically to join the CMI process. The cluster disconnects when no longer required.

The disconnection however does mean the dispersal of the individual actors – they may remain as a practice group. Instances of this social cluster

interdependency are shown in Configurations 11, 12, and 13 as the SME Network develops joins with the Market Adviser and the Legal SME.

The above analysis suggests that the actor network morphs in specific ways. The strong bonds shown in the final iteration of evolution suggest that this current configuration is less likely to change. Where resource configurations exist as “tight knit” or densely populated networks, changes are difficult. This is because resources and relationships are embedded in the network form. Additionally, cluster movement through node join or relationship creation changes the interdependencies between not only the CMI process but also the related processes. Thus embedding relational ties inhibits movement of actors and information flows.

However, by exploiting interdependencies (connectedness, tie strength variability, and bridging), alternative configurations of the resource network evolve. The CMI process resource network is able to acquire other resources and develop combined structures. Arguably, the reason why a particular actor is included in a network is because that actor brings, by association, its interdependent relationships to other actors in other networks.

In other words, the network interdependencies enable adaptive capability because they support the development and mutation of resource configurations (Stacey, 1995). The resource network in this exploratory study exhibits core, peripheral and clique network patterns as actors and relationships transform the business process. The network structure adjusts internal actor interdependencies whilst anticipating, acknowledging and responding to external conditions in FLS’ business environment. At the same time, the integrity of the business process remains.

What each of these transformations show is that FLS possesses:

"...the ability to support both the creation of capability with the necessary support structures, and the ability to act very rapidly when matters warrant it" (Interview: [5]).

Yet changes in the technology and process layers affect exchange relationships. Arguably, change associated ***only*** with 'process', or 'technology' fails because interdependent exchange relationships are not understood in terms of information exchange timing or information content criticality.

The analysis suggests that stronger bonds create dependency-driven structures. By contrast, weaker bonds facilitate resource movement and change in information flows. By inference then, the weaker the bonds between resources in one network and those in another, the easier it is to adapt network interdependencies. Consequently, it is proposed that:

> ***P3: the weaker the bond between resources, the more morphing through network interdependencies occurs***

Bond strength is therefore identified as a generative mechanism.

5.5.3 D3: Describing Resources

COT literature draws its definitions of resources from RBT. Yet COT lacks the description for 'resources' except to offer case examples of resources such as 'personnel' or 'technologies' as labels for organisational assets.

The body of knowledge which recognises resource structures other than 'human' as capable of having relationships and information exchanges is found within Actor Network Theory (ANT). ANT's description of 'resources' acknowledges the multiple types of actor present in resource structures, and accredits agency to material actors. Moreover, ANT also allows us to view resources in terms of their scale – from a single artefact or individual person, to societal phenomena such as 'the carbon agenda'. Any actor – be it the single or societal – is acknowledged as having an inter-active capability within a

networked resource configuration. ANT also enables us to explain transformation using multiple types of resource, whilst recognising the scale of resource.

5.5.4 D4: Describing Resource Relationships

The theoretical problem continuous transformation poses is how resource relationships are described and measured, what the evolution of these patterns looks like, and ultimately for whom these configurations are derived. The complex adaptive systems view recognises an organisation's resources as dynamic arrangements of elements or agents which act and react with their environment as well as themselves (Waldrop, 1994; Holland, 1995).

Depending on the granularity of inspection, these dynamic arrangements can be seen at whole system or sub-system level (Marshak, 2004). Dynamic arrangements are denoted by Marshak (2004) as continuous systemic alignment and continuous operational adaptation respectively. The deficiency exposed in the COT literature is lack of explanation of the "dynamics" of 'dynamic reconfiguration' in resource arrangements.

Resource arrangements – human ones at least - are found in the Social Network Theory (SNT) body of knowledge. Although SNT only offers agency for humans or groups of humans, the principles of connectivity are well established. SNT's strength is its description of relationships between agents. Using the relationship connectivity types identified by Grandori and Soda (1998) we can describe the importance of the relationships between agents using timeliness of exchange and information exchange importance as measures of relationship strength.

COT literature examines relationships only to the extent that agent behaviour is influenced by adjacent actors. There is no recognition of network behaviours, or resource network interconnectivity. Grandori and Soda's (1998) relationship typology enables more accurate description of relationships between resources.

Orlikowski's (2007) study describes 'sociomateriality' between agents, artefacts and infrastructures for a series of organisational activities. But the study doesn't consider the actual "network" of the resources, or their interconnectivity in performing a process.

5.5.5 D5: Describing the Rationale for Continuous Transformation

COT examines evolution through the behaviour of complex adaptive systems (Stacey, 2007). Adaptive systems develop contextual connectedness which facilitates interaction with environmental stimuli (Anderson, 1999; Holland, 1995). Yet there is limited description for how this 'connectedness' develops. In turbulent environments, anticipatory functions are critical in detecting and informing the need to change if any transient advantage is to be delivered from the organisation's resource base. The continuous reconfiguration of the resource base is referred to as "morphing" (Rindova & Kotha, 2001). They suggest that morphing requires a shift from control over resources through structure and process towards opportunistic evolution and experimentation.

Two implications arise from this concept of morphing. Firstly, detection of requirement to change is possible even if a target model for new resource patterns isn't clear or defined. Only time will tell if the results of changing may be determined as effective or satisfactory through the generation of advantage. This implies a condition of 'purpose' in evolution as opposed to reconfiguration for reconfiguration's sake which may not result in transient advantage.

Secondly, purposeful evolution implies that the rationale for evolving is driven by a requirement to deliver a performance outcome. The judgement on this success of outcome then rests upon the determination of the beneficiary within the organisation for whom the reconfiguration occurs.

Whilst this literature acknowledges purposeful and serendipitous evolution, it fails to identify what mechanisms actually intervene at BPRN level to influence resource configuration. Resource configuration – that is the availability and

placement of resources – is influenced by stakeholders (Freeman, 1984; Frooman, 1999). So Stakeholder Theory (ST) is drawn upon to provide a platform to argue 'intent' in resource network transformation.

Organising and adjusting resources occurs through the intervention of stakeholders – those with an interest or control over placement and availability of resources (Freeman, 1984; Rowley, 1997; Frooman, 1999). Stakeholders are critical in withholding or providing access to resources (Pfeffer and Salancik, 1978). Implicit and explicit relationships between stakeholders also govern resource positioning and availability (Hill and Jones, 1992). Deliberately organised resources through stakeholder intervention determine resource configurations. Thus stakeholders' interventions influence timely resource network transformation and the generation of outcomes (Frooman, 1999).

Mitchell, Agle and Wood (1997) identify the 'definitive stakeholder' as one who claims 'direct', 'urgent' and 'necessary' action over resources to affect outcomes (Mitchell, Agle and Wood, 1997: p878). However, this definition of stakeholder does not differentiate between internal or external stakeholders. This differentiation between the internal versus the external provides a means to identify specific stakeholders within the organisation. In this study, specific internal definitive stakeholders intervened through specific actions relating to specific resources to affect outcomes. The purpose of resource network reconfiguration can, as a result, be related to the intentions of such specific stakeholders.

Internal definitive stakeholders directly experience timely resource performance. Intervention to adjust resource configurations occurs where outcomes and expectations are misaligned. Direct, urgent and necessary intervention to reconfigure a resource network indicates speed of response. One implicit assumption in this rationale for intervention is that timely provision of data is available for the internal definitive stakeholder to evaluate the outcomes of resource network operation against expectations. Such feedback informs the

need for resource network reconfiguration. The sooner the detection of misalignment, the sooner the direct, urgent and necessary stakeholder intervention can occur.

COT literature only goes so far as to identify delays in detecting misalignment and delays in resource reconfiguration activity result in curtailment of value creation. Without continuous evaluation of resource network performance against expectations, and the subsequent interventions to ensure continuous evolution to generate advantage, transformation activity follows a punctuated or intermittent change pattern (Brown and Eisenhardt, 1997; Stacey, 2000).

Stakeholder theory provides a platform from which to argue the notion of "intent", and thus intentional transformation implies conscious placement of resources. Conscious placement is shown through the deliberate operational adjustments which are made in the resource network. The adjustments change the relationship interdependencies and the resource actors themselves. FLS describe this as:

"the evolution of the jigsaw" (Interview: [9]).

The expectations of stakeholders are embodied in the operation of the business process (Braganza and Lambert, 2000). The conscious placement of resources in a particular configuration is intended to create positive outcomes for stakeholders – the pursuit of advantage. Yet the judgement to determine advantage from intention is frequently only visible after the fact.

The configuration of resources has to operate to produce the outcomes before it is known whether those outcomes are positive or not. Stakeholders' interventions thus influence timely resource network transformation and the generation of outcomes (Frooman, 1999).

Although stakeholders can be anyone who affects or is affected by achievement of organisational objectives (Braganza and Lambert, 2000), conflicts arise as many stakeholders' interests affect the resources engaged in the organisation.

Multiple interventions by various stakeholders to organise resource networks are possible. Despite Mitchell, Agle and Wood's (1997) identification of 'the definitive stakeholder' as one who claims direct, urgent and necessary action over resources to affect outcomes (Mitchell, Agle and Wood, 1997: p878), this definition of stakeholder does not differentiate between internal or external stakeholders.

In this study, there are three explicitly identified stakeholders who act as internal, definitive stakeholders. Specially, these are the CEO, the CFO and the Internal Audit function. These actors all intervene to bring about necessary, urgent and direct operational adjustments which affect the resource configuration. The purpose of resource network configuration can, as a result, be related to the intentions of the internal definitive stakeholders.

For certain transformation of the resource network, the reason for intervention can be related to one of the identified stakeholders. For example: Configurations Start through to 3 expose the potential malpractice of Legal SME bookings influence over their own portfolios. The findings in the Internal Audit reports suggest that:

"...the system in place at the time had an inherent weakness..." (Source: Internal Audit Report 1987; Remedial Statement of Fact 1988).

Consequently the process relationships are altered at the direct instigation of Internal Audit to eliminate any possibility of wrong doing:

"...this is all about portfolio. What we had was a bunch of chaps who did their own thing, their own way, and squirreled away the history files and then ran their books and billing off them. I mean can you imagine the questions this raises? Portfolios mean prizes – well, fees and salaries and shares and such like. I mean you've got a bunch of chaps, who can essentially report their own portfolio, based on everything they control… a couple of investigations or visits

from Internal Audit and let me tell you it's enough to make these chaps squeaky clean…"(Interview: [5]).

An example of change instigated by the CFO concerns the availability of information through the operation of the business process:

"all these systems...all connected to each other... sometimes it's more critical than others... it's very important to have accounts running the portfolio reports – this is where we measure how good we are... [sometimes] its only for a certain time... the last week before the month end... a dependency with only a limited time duration... but [if] the CFO he doesn't get his information in the right time, ...we are in trouble" (Interview: [9]).

The CFO has the obligation to report FLS overall financial performance, to demonstrate "correct reporting against profitability" (Document: Audit Report 1987; 1991). This is evident from Configuration 5 where the trigger event is identified from the CEO wanting profitability information for the business process in relation to the value of revenues and fees earned versus the cost of provision of resources to secure that revenue where the Planning Directorate are shown as having reciprocal exchanges between the processes of Book & Bill, Resourcing and Portfolio)

Operational efficiency as a business reason can be attributed to the CEO and CFO as rationale for intervention in the reconfiguration of the business process. Configurations 7, 8, 9 and 10 relate to consolidation of technology within the process, outsourcing the management of the technology, and extending the use of the technology to accommodate additional business processes.

The intentions of the stakeholders are to reduce the cost of the business process:

"it's an economic decision - we have the overhead of multiple systems instead of one; second the data is mission critical so centrally managed" (Interview: [10]).

Additionally, there is recognition that the content of the information exchange is important:

"we have 10 year old data structures which do not support the information we need" (Interview: [11]).

Finally, the CEO is the internal definitive stakeholder to whom the execution of the business process is reported via the business portfolio. In the event that outcomes do not meet expectations, then activity is instigated to effect change:

"...portfolio is key. When that's not right, we act. Absolutely we act..." (Interview: [5]).

Despite the change in internal definitive stakeholder during the transformation time frame (Jawahar and McLoughlin, 2001), the stakeholders remain true to the strategic intent of the organisation. Their expectations for the resource network are aligned to the identified strategic thrusts (Process Focus, Scale the Capability, Grow the Business). Consequently, the transformation activities of the business process resource network are aligned with these intentions.

The effectiveness of the CMI business process is measured by the value of the Portfolio - the financial ledger which records the value of the client transactions and revenue earnings. The increasing value of the portfolio suggests that the changes to the CMI business process resource network contribute positively to revenue generation (please refer to Figure 13: The FLS Client Matter Induction (CMI) BPRN Evolution Map, in particular the revenue figures shown for the latter years).

In addition, it is noted that one event which took:

"3 years in the planning, 6 months in implementation, saves us 1 month every time we do new business" (Interview: [10])

(please refer to Configurations 11 and 12).

In these latter configurations, where specific SME networks are created in response to new business requirements, the lag time reduces from 3 years to 1 year. The pace at which the resource network changes its structure is more rapid than previous lag times between other configurations. These latter structural changes are aligned to a greater number of internal and external reasons for change to occur (refer to Table 25: CMI BPRN Triggers Identification & Time Lags).

There are 10 configurations of the network which are attributed to internal reasons for change (refer to Table 23: Internal Triggers for CMI BPRN Evolution). Such structural changes within the network, if taken in isolation of the other configurations, appear to be "self organised". That is to say, the stimulus for change stems from the actors in the network.

However, the rationale for the change stimulus such as "internal audit and compliance" (Configuration 2), or "portfolio performance" (Configuration 5) or "process efficiency" gained through exploiting the technological resources more effectively (Configuration 8), are all aligned to the strategic thrusts of FLS. Such alignment is embedded in the expectations of the stakeholders of the process. Consequently, the apparent self-organisation isn't 'self-organised': there is implicit sanction for purposeful structural development.

Additionally, self-organising occurs regardless of rationale, and regardless of relationship to outcomes from the changes. In the CMI process, such changes have not occurred for their own sake. Systems did not "join" at system instigation – they joined through sanctioned technology capability scaling. Other processes have not "joined" by themselves, they have been joined up to exploit common resources as result of sanctioned flow of information to support wider business operating processes (such as the process "Book and Bill" or "Referral"). The process changes:

"because it's not doing the right things, right. And sometimes that means we get better by changing the order we do things in. Or we change by doing something different, or punting in new systems..." (Interview: JD).

The above suggests that the resource network has evolved in a purposefully determined manner according to internal definitive stakeholder expectations. Arguably, the stakeholder does not know whether the reconfigured resource network creates benefit until it operates. The reconfiguration of the resource network is however undertaken as a direct result of intentional embodiment of expectations from the process operation. As such, post-event rationalisation is unnecessary because intervention occurs until outcomes meet expectations. In other words, expectation and outcome are achieved through the conscious deliberate reconfiguration activity of the resource network – purposeful manipulation of both actors and interdependencies to produce desired outcomes. It is therefore proposed that:

P4: The more the resource network morphs, the greater the level of stakeholder satisfaction

Conversely, where resource network transformation leads to stakeholder dissatisfaction, reconfiguration through stakeholder intervention occurs:

"...we have to keep the CEO happy because he calls on us to make it all happen" (Interview: JD).

Calls for immediate rectification continue until stakeholder satisfaction is achieved and benefit is evident. Such purposefulness of intent in transforming the resource network generates benefits. The CMI process is the delivery process to secure revenue – this revenue has doubled between 2004 and 2008.

Un-purposeful transformation - reconfiguration which is not at the behest of internal definitive stakeholders - will not lead to developing benefit. Yet emerging network resource patterns which occur with or without intervention

may not deliver benefit. Intervention occurs until benefit is derived from the resource network. Internal definitive stakeholder intervention is thus identified as the generative mechanism for BPRN evolution. When circumstances change, derived benefit may change and expectations are no longer met. Thus morphing the resource network continuously ensures outcomes, expectations and environmental circumstance are embraced. Stakeholder satisfaction is therefore identified as a generative mechanism.

5.5.6 Transformation Timelines and Timeliness

In this exploratory case there are 3 measures of time which are brought to light:

First, there is the overall duration throughout which the transformation of the resource network occurs;

Second, there is the duration or longevity of each noted reconfiguration. This is noted as the lag time;

Third, there is the notion of how long it can take to bring about a transformation in the resource network.

Consequently, the timeline for transformation and the timeliness of transformation is discussed in relation to the concept of 'continuous'.

5.5.6.1 Transformation Timelines and Timeliness: Overall Duration

The timeline considered in this study shows the evolution of the CMI business process over a 25year period. Within this period, 37 separately identified transformations were identified from the data sources. Yet there is no indication of whether the time scale represents "fast" or "slow" for FLS. There is also no basis for comparison with other like firms, or other industries. However, FLS recognise the rate at which processes can change:

"..certain legal processes can take up to five years to change…"(Interview: JD).

Furthermore, there is no basis for comparison when considering the frequency of transformations occurring over the timescale. Thus to consider "when and how often" change occurs (Eisenhardt and Martin, 2000) in reconfiguring resources requires further research.

5.5.6.2 Transformation Timelines and Timeliness: Duration and Longevity

The CMI process undergoes reconfigurations which range in their duration from less than 1 year to 13 years. The longevity of the configurations varies. When prompted to explain a particular instance of longevity, FLS explain:

Question: "So what happened in the 90's? Did the process stand still for 10 years?

Answer: "No no. Hmmm. Well maybe. Depends what you regard as movement really doesn't it? ... we grew our practice significantly, global expansion." (Interview: [12]).

In fact, FLS replicated the CMI process in other locations. Whilst the immediate London business process remained intact, connectivity (joins) to the Central Data Warehouse from alternative locations occurred. Similarly, the global expansion supported the creation of internal Legal SME Practice Groups. These are node connections and relationship connections which are created between networks.

Eisenhardt and Martin (2000) pose the question of "when and how often" change occurs in reconfiguring resources. More than 85% of the transformations of the CMI resource network take 5years or less. Yet there is no evidence to suggest that certain trigger sources caused increased longevity. However, the frequency of reconfiguration and the number of concurrent reconfigurations to the resource network increases from the late 1990's. In other words, the time lag, or delay, between reconfigurations becomes less and less.

Further research is required to bring to light “when and how often” change occurs within the business process resource network.

5.5.6.3 Transformation Timelines and Timeliness: Lead Time

Eisenhardt and Martin (2000) pose the question of “when and how often” change occurs in dynamic reconfigurations. Extending this question to consider “why?” change occurs provides the rationale for stakeholder intervention. The discussion above has identified the proposition that continuously morphing the resource network satisfies stakeholder expectations. Yet for the timeliness of the transformation, the question of how long it takes to recognise that the outcomes from the current resource configuration no longer satisfy the expectations remains unanswered.

Expectations and intentions of internal definitive stakeholders are embedded in the business process (Braganza and Lambert, 2000). Resource ownership and engagement in the business process is at the behest of stakeholders (Pfeffer and Salancik, 1978; Rowley, 1997). Intervening in the resource configuration to address the misalignment of outcome and expectation contributes to environmental turbulence. Additionally, the intervention is enacted as operational adjustment to the resource configurations.

Since the timing of misalignment detection is lacking, further research is required to bring to light the timeliness of the intervention activity. The timeliness would serve to show the relationship between lag time and the detected requirement to change. This measure would represent the lead time for transformation.

5.5.6.4 Transformation Timelines and Timeliness: Continuous Morphing

Marshak (2004) describes morphing as continuous operational adjustment to systems – be they whole or sub systems within organisations. By definition, ‘continuous’ is ‘incessant, unbroken, uninterrupted; representing continuing action or a continuing state’ (Chambers 21st Century Dictionary). The CMI

BPRN in this study shows a continuing state of transformation – sometimes only 1 element is changing, sometimes more than one element is changing.

However, the duration of each resource network configuration does not consistently show reducing time lag between each transformation (please refer to Table 25: CMI BPRN Triggers Identification & Time Lags). Only the last three evolutions triggered by external events show time lag reductions from three years to one year. Subsequent transformations take one year or less.

The time lag between reconfigurations ranges from 1 year to 13 years. Out of the 15 identified transformations, 13 took 5 years or less to implement (see Table 27: Duration Frequency of Concurrent Events). Delayed reconfiguration leads to deferring the value generated by the process to stakeholders. Less delay leads to faster generation of value.

For example: one configuration adjustment now saves FLS 1 month for every new client business matter undertaken: “3 years in the planning, 6 months in the implementation.... saves us 1 month every time we do new business” (Interview: PD) and “[what] it comes down to is how we turn it round”(Interview: JD). The longer the delay, the more dissatisfied the stakeholders.

The discussion above suggests that the duration of the transformation activity is not as important as delaying the delivery of value from the process to stakeholders. When delay occurs, there is a time lag between when the configuration is determined to be no longer satisfactory, and the point at which reconfiguration delivers expected benefit. Consequently, the resource network configuration remains in effect for only as long as it continues to satisfy internal definitive stakeholders’ expectations. It is therefore proposed that:

> ***P5: the greater the time-lag in reconfiguration, the greater the dissatisfaction of the stakeholders***

Timing and timeliness are identified are operating conditions of BPRN evolution.

Despite the shortcomings of COT literature in explanation, the multi-theoretical lens provides a means to explain the BPRN activity over the timeline. In essence, the BPRN configurations remain in place until triggers from internal or external sources occur. Then specific stakeholders – internal ones – intervene to affect resource placements or resource relationships. Thus stakeholder expectations are the reason behind evolution activity, and bond strength is the reason behind BPRN configuration. The additional factors of environmental uncertainty, timing and timeliness of change, and enduring business logic serve to explain the continuity of activity.

5.6 Addressing the Deficiencies in Teece's (2007) model

The models in the literature identified do not include any reference to the dynamics of dynamic capability, nor do they reference timing and timeliness. The nearest model which addresses dynamic capability and the premise for continuous morphing is that proposed by Teece (2007) identified in Chapter 2 (see 2.3.1 Theoretical Deficiencies in Dynamic Resource Reconfiguration Logic on page 41):

The four short-comings in explanation of this model identified above were noted as:

S1: the firm-level of organisation at which this logic operates;

S2: the lack of acknowledgement of 'time' in the timeliness of dynamic reconfiguration – only that '"sooner, more astutely or more fortuitously" (Eisenhardt and Martin, 2000) is an operating assumption for the model;

S3: the model does not identify the recipients of advantage other than 'the firm';

S4: the model focus is on the strategies for dynamic reconfiguration – opportunity, investment, and reconfiguration – with no explanation for the actual mechanism for such reconfiguration.

The shortcomings of Teece's (2007) model are also addressed by the propositions (P1, P2, P3, P4 and P5) described above. Specifically:

S1 considers the assets as located at the firm-level of analysis: reconfiguration activity is firm-wide and asset-base specific, managed via orchestrated firm-wide intervention. In this study, the resources are identified at a micro-state level – that of the BPRN. Reconfiguration activity is very specific, affects a single resource (or at the least, a single group of resources treated through a specific relationship). This shortcoming is addressed by considering the BPRN itself in proposition P3.

S2 considers the relationship between reconfigured assets and competitive advantage. Only the premise that '"sooner, more astutely or more fortuitously" (Eisenhardt and Martin, 2000) is an operating assumption for the model. Furthermore there is no mention of 'time' or its relationship to the reconfiguration of assets and the achievement of advantage. In this study, time factors are identified to the extent that delay in achieving advantage is directly related to stakeholder intervention. 'Time' is measured such that 'delay' and 'lead time' may be perceived between reconfiguration events. Moreover, the BPRN activity in the causal map shows concurrency – something the logic of Teece's (2007) model does not even mention. This shortcoming is addressed through propositions P2, P4 and P5.

S3 considers the recipients of advantage, rather than generic concept of 'the firm'. In this study, there are specific stakeholders whose requirements are met through BPRN reconfiguration. These stakeholders – the CEO, the CFO and the Internal Audit department are the instigators of specific asset reconfiguration and specific relationship alteration. This shortcoming is directly addressed in proposition P4.

Finally, S4 considered the strategies for dynamic reconfiguration – opportunity, investment, and reconfiguration. There is no mention of the specific actions

which relate stakeholder expectation with specific movements of resource and specific changes of intensity between specific resources. Nor is there any recognition of any other environmental circumstance – be that internal to the organisation or external. Propositions P1 and P3 serve to bring to light the microstate circumstances for reconfiguration activity, and act as informants to the stated 'prior paths and asset bases' identified in Teece's (2007) model.

Furthermore, there is no mention of 'time' or its relationship to the reconfiguration of assets and the achievement of advantage. In this study, time factors are identified to the extent that delay in achieving advantage is directly related to stakeholder intervention. 'Time' is measured such that 'delay' and 'lead time' may be perceived between reconfiguration events. Moreover, the BPRN activity in the process evolution map shows concurrency – something the logic of Teece's (2007) model does not even consider.

5.7 Towards a Theoretical Model of Actor Network Morphogenesis

In this study, the evidence for BPRN transformation suggests that morphing occurs through two specific mechanisms, with four factors present. These BPRN morphing conditions are reflected in the propositions, summarised below in Table 28: Proposition Summary:

Prop'n	Statement
P1	the greater the level of environmental uncertainty, the greater the level of morphing
P2	the greater the number of concurrent triggers, the greater the level of morphing
P3	the weaker the bond between resources, the more morphing through network interdependencies occurs
P4	the more the resource network morphs, the greater the level of stakeholder satisfaction

P5	the greater the time-lag in reconfiguration, the greater the dissatisfaction of the stakeholders

Table 28: Proposition Summary

The core concepts from literature identified from Table 1: Continuous Organisational Transformation Concepts are now drawn together with the propositions identified from the discussion (shown below in Table 29: Underpinning Theoretical Principles & Propositions):

Literature	Principles & Core Concepts	Selected Authors	Proposition
Resource Based Theory	• Environmental turbulence and uncertainty stimulates change • Dynamic capabilities generate advantage through morphogenic resource configuration • Advantage is transient in competitive environments	Emery & Trist (1965) Barney (1991) Teece, Pisano & Schuen (1997) Eisenhardt & Martin (2000)	P1, P2
Social Network Theory	• Configuration and composition of network structures is influenced by relationship types • Interdependencies between actors are influenced by time-sensitivity of information exchange, and the extent to which the information content is regarded as important for the recipient	Granovetter (1973, 1982) Tichy, Tushman & Fombrun (1979) McPherson, Popielarz & Drobnic (1992) Grandori & Soda (1998)	P3
Actor Network Theory	• Composition of networks can comprise many different types of actor, not just social or human actors (ie the agency of non-humans) • The only “translation” present in	Callon & Law (1989) Law (1992) Latour (2005)	P3

	the network is its purpose to main integrity of the business process through the actors' engagement		
Stakeholder Theory	• Stakeholders' expectations are embedded in the organisation's strategy and objectives • Strategy and objectives are realised through business process • Business process is affected by resource availability and structural alignment • Resource structure composition and configuration are aligned to intent and expectations • Definitive stakeholders intervene urgently, directly and necessarily to reconfigure resource structures which do not satisfy expectation	Hill & Jones (1992) Frooman (1999) Mitchell, Agle & Wood (1997) Braganza & Lambert (2000)	P4, P5

Table 29: Underpinning Theoretical Principles & Propositions

Consequently, to address the specific deficiencies in COT literature, and to address the shortcomings of the Teece (2007) model, a simplified theoretical model of actor network morphogenesis is proposed (see Figure 40: Towards a Theory of Actor Network Morphogenesis):

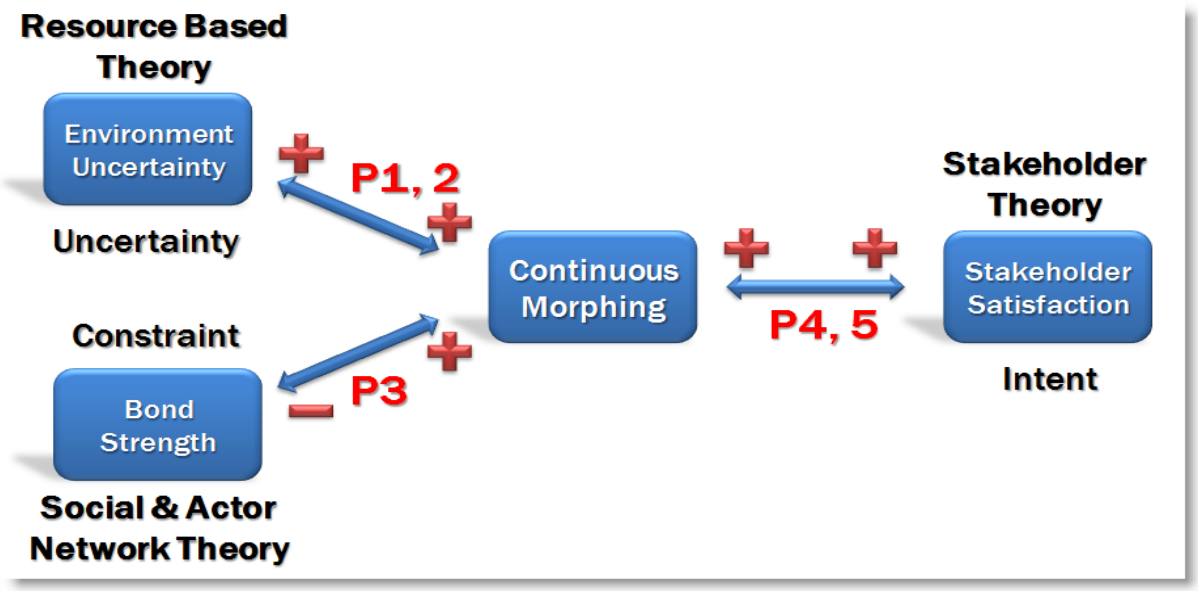


Figure 40: Towards a Theory of Actor Network Morphogenesis

The continuous morphing of the resource network generates tenable, but not necessarily predictable benefit. This supports the resource based theory principle of the logic of opportunity enabled by dynamic capabilities (Eisenhardt and Martin, 2000; Teece, 2007). Nevertheless, that logic serves to explain the rationale for internal definitive stakeholder intervention – because if advantage is not achieved, certain stakeholders will intervene to affect resources and performance. Outcomes from continuously morphing the business process resource network satisfy - or not – the expectations embedded in that process (Braganza and Lambert, 2000).

Eisenhardt and Martin (2000) argue that true long term advantage rests in the ability of firms to reconfigure resources to create temporary structures which generate benefit. Reconfiguration then becomes a matter of "when, where and how often to change" (Eisenhardt and Martin, 2000, p1118). The identification of the internal definitive stakeholder provides a platform from which to argue reconfiguration rationale. Moreover, when, where and how often to change are attributable to stakeholder intervention. Such intervention occurs "sooner, more

astutely or more fortuitously... to create resource configurations that deliver advantage" (Eisenhardt and Martin, 2000, p1117).

The findings from this exploratory study present a simplified theoretical model and identify specifically the generative mechanisms for reconfiguration. Those generative mechanisms - bond strength and stakeholder satisfaction - are the mechanisms which directly influence reconfiguration activity. Additionally, factors of environmental uncertainty, concurrency, timeliness and enduring business logic are present in any BPRN morphing. Moreover, as a locus for study, the findings are discussed at the microstate level – the BPRN.

In this study, the proposed logic of actor network morphogenesis takes into account the two specific generative mechanisms which affect the arrangement of assets - bond strength (developed by P3) and stakeholder expectation (developed by P4). Moreover, the recognition of time, timing, timeliness (the operating condition P2) and delay of delivering advantage (the operating condition P5) informs stakeholder satisfaction. The context informing stakeholder satisfaction is that of environmental circumstance (echoed in P1).

The inclusion of the propositions P1 through P5 in the model account for the factors of environmental uncertainty, of concurrency of events, of time lags in stakeholder satisfaction. Moreover, their inclusion addresses the shortcomings in logic of Teece's (2007) model by exploring dynamic reconfiguration at the micro-state level. Specifically, if we examine Teece's start point of paths and asset bases, these are resource configurations. Resource configurations in this study are represented by the collection of actors which perform a business process – the business process resource network. Configuration of the BPRN is determined by relationship intensity – the bond strength – noted in P3. Consequently, 'prior paths' and 'positions' are determined by BPRN bond strength.

The ‘boundary’ of the logic in Teece’s (2007) model is informed by the contextual factors identified in P1 and P2. Any start point or composition of the asset base will have been crafted by taking into account organisational alignment of internal capability and capacity with external complexity. The ‘operation’ of Teece’s (2007) model sees ‘dynamic capability’ undertaken to deliver advantage through reconfiguring the asset base. Yet the absence of time as a measure of ‘prior path’ and ‘new path’ is missing. In this study, P5 captures the concept of time between these points.

Furthermore, the outcome of advantage from Teece (2007) is delivered (albeit implicitly) to stakeholders – without mention of who they are. This study explicitly identifies those stakeholders – the internal definitive stakeholders – at whose behest reconfiguration and evolution occur in the BPRN. And it is these stakeholders who experience the impact of timing and timeliness of resource reconfiguration – hence the link between P5 and P4.

Finally, Teece’s (2007) model fails to offer any linkage between stakeholders and the need to change. If advantage is not achieved in Teece’s model, there is no feedback or feed forward opportunity: there is no link to any entity which control resources. Only by considering environmental circumstances (P1 and P2) can existing BPRN configurations be considered in relation to delivering advantage. The issue is then one of timing – how quickly reconfiguration activity occurs to deliver advantage.

In this study, the BPRN is the CMI business process within FLS. The CMI BPRN is an actor network which evolves in a stakeholder determined manner. The timely reconfigurations of the resource network produce increased benefits for FLS. The resource network itself comprises multiple actor types, both agents and artefacts. The interdependencies of the actor network are described by using the principles established in social and actor network theories. The transformation of the configuration of those actors and their relationships is brought about by specific stakeholder intervention. Finally, the longevity of the

various actor network configurations is understood through resource based theory.

Thus the proposed model of Actor Network Morphogenesis seeks to address those theoretical deficiencies and shortcomings.

5.8 Chapter Summary

In this chapter, the findings from Chapter Four were discussed. The summary of previous literature and the theoretical deficiencies framed the discussion. The BPRN was used as the unit of analysis to expose the specific characteristics of an actor network which underwent transformation.

As a result of the findings, the series of propositions was developed to describe the transformation behaviours of the actor network. The propositions relate to the generative mechanisms identified from the findings – specifically bond strength, and stakeholder satisfaction. The BPRN also recognises specific operating conditions in which continuous transformation occurs – environmental uncertainty, concurrency and timeliness, and the maintenance of the enduring business logic.

The next chapter summarises the contribution and identifies the next steps in researching the phenomenon of morphing through BPRN.

6 CONCLUSION and CONTRIBUTIONS

6.1 Chapter Introduction

In this chapter, the research is summarised. The research question posed at the outset is used to frame the conclusion. The limitations of the research are presented, and potential future research opportunities are identified. Finally the chapter is summarised.

6.2 Conclusion

The research question posed at the outset was: 'How do BPRN morph over time?' To address this question, the literature review considered the context of organisational change, and how scholars have viewed change and changing. The emerging body of knowledge concerning continuous organisational transformation became the focal point for understanding change. Yet this body of work was found to have limited explanations which supported microstate analysis. Additionally, no explanations were found for the mechanisms which were present in BPRN morphing.

As a result, a multi-theoretical approach was taken to address these shortcomings. The methodology was developed by combining specific research strategies – narrative, visual mapping and temporal bracketing (Langley, 1999) - to bring to light BPRN change activity. In addition, these strategies were placed in the context of multi-level analysis (Snook, 2000; Bhaskar et al, 2010) to bring an appreciation of cross-level activity and its effects on microstate events.

This study has brought to light theoretical characteristics associated with the continuous transformation of the BPRN. Specifically, the transformation occurs as a direct result of managing the tri-partite constraints of resource structures, environmental uncertainty and stakeholder expectations. The characteristics of the actor network transformation relate to the bond strength between the actors in the business process, and the changeability of the actors themselves. These

characteristics come to light when the conditions of the operating environment change and the expectations of stakeholders are no longer met by the outcomes generated by the process.

The literature, which typically discusses business processes, was found in Organisation Theory. However, OT failed to address the BPRN in terms of its component descriptions, relationships or evolution mechanisms. Consequently, OT was discounted as a means to explain how BPRN morph.

Instead, the principles of other theories were drawn upon to offer explanation for continuous morphing (Langley, 1999; Rousseau & House, 1994, Bhaskar et al 2010). The deficiencies present in the COT literature were identified as a failure to describe resources, their relationships, the mechanisms for resource structure evolution, and the rationale for evolution.

So, how do organisations continuously transform at the microstate level?

In this study, answering this question began by defining the unit of analysis using McKelvey's (1999) view that microstate units of analysis in organisations are process-based. Furthermore, the study followed McKelvey's view that to understand process adaptation a time based sequence of firm-specific events was required.

The unit of analysis was defined as a Business Process Resource Network – the BPRN. The study used MacKenzie's (1986) process 'law' to describe the five typical components of a business process, and specifically described the entities (including their characteristics) involved in performing the process, described the relationships between these entities, and their links to other processes.

The resources were described using the principles of actor network theory (Latour, 2005) to ascribe agency to not-social actors. The actors also exhibited

characteristics of ‘scale’ from the single resource to the external societal influence. Such scale is recognised by Bhaskar et al (2010).

The transformation of the BPRN in this study is explored by using a multi-theoretical approach – in particular using Snook’s (2000) causal mapping framework to explore the timeline of events at multiple levels of analysis to develop a process evolution map. Using narrative, visual mapping and time bracketing (Langley, 1999) the evolutionary storyline was brought to light.

The findings from the study suggest that the BPRN evolves in specific ways:

- through changes in the relationship type to make connectivity to specific resources more adaptable
- through changes in the type of actors occupying node positions and their scale
- through deliberate intervention by stakeholders – specifically the internal definitive stakeholder whose urgent, necessary and direct actions affect resource actors, their placement and their relationships

The evidence from the process evolution map suggests that configurations remain in situ until such time as stakeholder dissatisfaction occurs. Intervention only occurs at this point. As a result of these findings, a number of propositions were developed relating to the organisation’s environmental operating conditions, the bond strength between resources, the timeliness of reconfiguration, and the reconfiguration outcomes in relation to stakeholder expectations.

6.2.1 Contribution to Theory

The contribution to theory is made through the proposed model of Actor Network Morphogenesis.

The basis for the contribution stems from the propositions identified as a result of this study. In summary, these are shown below in Table 30: Proposition Summary:

Prop'n	Statement
P1	… the greater the level of environmental uncertainty, the greater the level of morphing
P2	… the greater the number of concurrent triggers, the greater the level of morphing
P3	… the weaker the bond between resources, the more morphing through network interdependencies occurs
P4	… the more the resource network morphs, the greater the level of stakeholder satisfaction
P5	… the greater the time-lag in reconfiguration, the greater the dissatisfaction of the stakeholders

Table 30: Proposition Summary

As discussed above, the propositions address the shortcomings in Teece's (2007) model for dynamic capabilities, and locate continuous morphing at the level of a BPRN within an organisation. The underlying generative mechanisms identified in the study were those of bond strength (as the resource relationship), and stakeholder intervention. The additional factors of environmental uncertainty, concurrency, timing, timeliness and delay in reconfiguration were also identified as important in understanding COT.

Furthermore, contribution is made by addressing the theoretical deficiencies of explanation in the COT literature. The contributions to theory are summarised below in Table 31: Summary of Contributions to COT Theory as follows:

Existing Literature & Theory	*Contribution*
Whereas previous research has adopted 'single lens perspectives on COT'…	…this study employs a multi-theoretical perspective and uses combined research strategies to explore and explain microstate morphing
Whereas previous research focuses on singular organisational levels of analyses…	… this study adopts a multi-level analysis approach to provide a richer, more holistic understanding of the phenomenon
Whereas previous research has adopted well-researched units of analysis eg the firm, the department…	… this study focuses specifically on cross-level unit of analysis that exists at the 'microstate' of an organisation: the Business Process Resource Network
Whereas COT theory lacks explanation for deficiency D1: the business process vs the business process resource network…	… this study introduces the focal point as the resource network which underpins the business process operation, not the operation of the process
Whereas COT theory lacks explanation for deficiency D2: temporary resource structure evolution…	… this study offers resource description and inter-relationship definition through "the ways of acting of things" – in particular, recognising the multiple actors present in BPRN, their scalability, and their modelled inter-dependencies
Whereas COT theory lacks explanation for deficiency D3: resource description…	… this study presents and defines the BPRN, a description of a Business Process Resource Network at the microstate level – multiple actor types and the use of scale
Whereas COT theory lacks explanation for deficiency D4: resource relationships …	… this study presents explicit definition of dependency types and their changeability over time – with the over-riding assumption that their interconnectivity maintains the business logic of the function for the BPRN; requirements within the literature to extend the definition to permit real-time BPRN performance reporting
Whereas COT theory lacks	… this study presents explicit identification of the Internal

explanation for deficiency D5: evolutionary rationale…	Definitive Stakeholder (even allowing for changing stakeholders over time) who *necessarily*, *urgently* and *directly* calls for resource adjustment; and presents the inclusion of stakeholder theory as the platform for arguing 'intent' in BPRN evolution
Whereas COT Literature lacks explanation for micro-state morphing, specifically the 'dynamics' of dynamic capability…	… this study extends the logic of the dynamics of dynamic capability through the identification of 2 mechanisms which operate at the microstate level to offer explanation for 'the ways of acting of things'; in addition the contribution recognises "time" and "timeliness" in the satisfaction of internal definitive stakeholder expectation
Whereas Teece's (2007) model operates at a firm level (noted as S1) …	… this study provides the explicit definition of the microstate by defining the Business Process Resource Network
Whereas Teece's (2007) model presents a logical flow to the dynamics of dynamic reconfiguration (noted as S2)…	… this study identifies 'timing', 'timeliness', 'concurrency', 'delay', 'lead' and 'lag' time as important factors in reconfiguration activity
Whereas Teece's (2007) model presents only 'the firm' as the recipient of 'advantage' (noted as S3)…	… this study presents explicit identification of the internal definitive stakeholder (even allowing for changing stakeholders over time) who necessarily, urgently and directly calls for resource adjustment; and presents the inclusion of stakeholder theory as the platform for arguing 'intent' in BPRN evolution, reinforcing the contribution to D5
Whereas Teece's (2007) model identifies strategies for reconfiguration (noted as S4)…	… this study and the development of the theoretical model of Actor Network Morphogenesis identify the specific mechanisms and factors which affect dynamic reconfiguration at the microstate level

Table 31: Summary of Contributions to COT Theory

The findings from Chapter 4 and the discussion offered in Chapter 5 present two generative mechanisms for continuous morphing. These mechanisms offer the means to explain conceptually 'the ways of acting of things' (Latour, 2005).

Furthermore, the BPRN exhibits an enduring business logic – an underlying 'raison d'être' – which is maintained throughout the morphing activity.

The discussion in the previous section also highlighted the importance of timeliness through the lag or delay in reconfiguration. Additionally, concurrency of transformation activity is present. The timeliness and concurrency of structural changes within the network reflect continuous adjustment activity. Continuously morphing the network arrangement of resources has contributed to internal, definitive stakeholder satisfaction. The transformation of the actor network is characterised by its purposeful, timely, structural evolution. The following definition of this structural evolution of the actor network is proposed in order to explain the dynamics of the transformation:

> *Actor Network Morphogenesis* is the timely, concurrent, structural development of the configuration of components and their respective relationships in a specific actor network which comprises a business process.

The business process resource network develops form and shape through structural connectivity within itself, to other actor networks through common actor bridging, and through closure of structural holes. Relationships develop through specific information exchanges, changes in routing of the information, or changes in the importance of information content as it is passed between actors. In other words, actor network morphogenesis is a mechanism to explain microstate adaptation behaviours.

These structural developments constitute ongoing operational adjustment within the business process. Such adjustments frequently occur at the same time as other adjustments are made to other components or relationships – ie configuration developments are concurrent. Additionally, the developments are instigated at the behest of specific stakeholders within the organisation – definitive, internal stakeholders.

Direct, necessary and urgent intervention occurs to manipulate the structural development of the actor network in order to influence the outcome of the process. Moreover, intervention occurs as and when required: structural development contributes to purposeful evolution, it does not occur as spontaneously self organised activity.

Any configuration remaining in situ does so only because it continues to satisfy internal, definitive stakeholder expectation. Misalignment of intention, outcome and expectation are always addressed through intervention. Any lag or delay in intervention becomes less and less as the process outcomes satisfy expectation more rapidly. Furthermore, reconfiguration activity obeys the operating constraint of enduring business logic – that is, the purpose of the process to perform the business operation is maintained throughout morphing activity.

In order to facilitate the structural development of the actor network, further refinements of the relationship definitions between actors are posited. This is because without such adjustments, retroduction in the actor network is incomplete. Two of the tie-type definitions in use (Grandori and Soda, 1998) are reproduced below in Table 32: Network Node Relationship (Tie Type) Classification based on Grandori & Soda(1998) with additional annotation by this author (in bold) to show extended definition with additional annotation to support the additional conditions of structural development of the business process resource network:

Relationship Type	***Relationship Description***
Reciprocal (3)	An information feedback between activities for adjusting the operations on the basis of information on how other operations have been performed or need to be performed may be necessary; or between resource nodes on the modification occurred or foreseen in a resource used in common (e.g. enrichments of know-how, functioning problems in a machine). Therefore communication channels should be established between activity or resource

	nodes, either through direct communication ties, through liaison roles, ***or additionally through performance management systems which enable decision making regarding node performance adjustment requirements ie to support composition and configuration adjustment to the business process resource actor network***
Intensive (4)	This is characterized by the need of real time adjustment between activities exchanging resources (as it may occur in process technologies) or between resources employed in a joint activity (as it may happen in complex construction activities). Task or resource aggregation in integrated units or teams is in order to govern those dense interdependencies. ***Real-time information flows to internal, definitive stakeholders whose expectations are met (or not). These stakeholders consequently make real time adjustments to the actor network supported by active, open feedback mechanisms which link outcomes from the operation of the business process resource network to their expectations.***

Table 32: Network Node Relationship (Tie Type) Classification based on Grandori & Soda(1998) with additional annotation by this author (in bold) to show extended definition

In addition to the nuances of the structural development of the actor network, the initial definition of actor network morphogenesis is located within the continuous organisational transformation literature as proposed in Table 33: Positioning Actor Network Morphogenesis with the Literature below:

Author	**Key Descriptor/Concept**	**Components/Purpose**
Smith (1776)	Networked Adaptive Systems	Network arrangements for bringing together the man-to-man, man-to-machine interfaces throughout all the subsystems of an organisation with those of the larger society
Kogut & Zander (1992)	Combinative Capabilities	Resource reconfiguration mechanisms
Waldrop (1992) Holland (1995)	Anticipatory Adaptive Systems	Deliberate reconfiguration reactivity to events in order to develop advantage through form and function (a dynamic

		network of elements or agents which act and react with their environment as well as themselves)
Teece et al. (1997)	Dynamic Capabilities	The capability to adapt, build, integrate or reconfigure other resources and capabilities
Rindova & Kotha (2001)	Continuous Morphing (firm-level)	Evolve-ability; Organic or decentralised forms; Flexibility of resource base; Organisational learning; Layering of resource base including IT/IS
Marshak (2004)	Continuous Operational Adaptation	Sub-system reconfiguration
Marshak (2004)	Continuous Systemic Alignment	Whole system reconfiguration
Wall (2005)	Protean	Organisational agility; Real time information architectures; Process capability;
McMillan (citing Ashkenas et al (1995) Kauffman (1996)	Adaptive Systems	Non-linear, non-hierarchical, flexible, holistic, and networked resource structures and relationships
Stebbings	*Actor Network Morphogenesis*	Intentional and purposeful structural development of a network of actors whose configuration comprises a business process, which is subject to continuous operational adjustment to satisfy expectations of internal definitive stakeholders.

		The configuration of such a business process resource network endures for only as long as its outcomes continue to satisfy expectation in relation to intention, under conditions of environmental uncertainty.

Table 33: Positioning Actor Network Morphogenesis with the Literature

The positioning of ANM within this framework shows the development of the concept from its theoretical foundation within the literature.

The model addresses not only the theoretical deficiencies of the COT literature, but also the shortcomings identified in the chain of logic of dynamic reconfiguration (Teece, 2007). In particular, the model is addresses the sociomateriality of actor network morphogenesis as a means of continuous organisational transformation for business process resource networks.

Additional contribution is made through the identification of the BPRN itself – the unit of analysis at the microstate level.

Whilst no direct contribution is claimed for the Methodology, this study makes novel use of a multi-theoretical approach to explore BPRN morphing. The research strategies presented in Chapter 3 (see Figure 14: Research Strategies Summary on page 120) offer a combination of approaches to explore BPRN morphing in an organisational setting seldom studied.

6.2.2 Contribution to Practice

The primary contribution is to the understanding of continuous organisational change at the lowest levels of analysis within an organisation. Specifically, that a single business process and the network of resources engaged in the process needs to exhibit certain characteristics for change to occur. The implications for practitioners are that unless the relationships and configuration of resource within the BPRN are addressed when the organisation undergoes change,

those relationships and resource configurations will hinder timely, purposeful morphing.

For practitioners, consultants, or transformation agents engaged in organisational change, this study suggests ways of looking at business operations not typically considered. For many change programmes, the emphasis too often is placed on ‘the new technology’ system for processing orders (for example). Or implementing an induction programme for new employees (another example). The focus presented in this study is the business process itself, not a single group of actors, be they technological artefacts or human employees.

To understand the transformation requirements, it is suggested that practitioners focus on defining the business processes engaged in the operation. As a start point, the proposed Actor Network Morphogenism theoretical model is offered, not as a prescriptive or definitive guide, but as a heuristic device to guide questioning in uncovering transformative issues in practice. This is presented in the form of three ‘slides’ as the discussion tool. The figure is colour coded, so the questions relate to specific parts of the diagram:

What is going on in 'our world'?

Does the organisation exist in a complex, inter-related context in its competitive domain?

Is the organisation related to or dependent upon other organisations through defined relationships?

Do circumstances or triggers occur frequently which require rapid responses or changes in form & function?

Does the organisation deliberately scan its environment in order to detect changes to which it needs to react?

What mechanisms are in place to do this?

Are they linked to performance management information systems?

Are there deliberate feedback mechanisms in place which indicate that change is required?

Is "change" a result of key stakeholders' dissatisfaction in performance ?

Are resource sets reformed/reconfigured to deliver alternative performances based on stakeholder requirements ?

Can the organisation change its form & function to meet the perceived requirement?

How difficult does it feel to address environmental uncertainty?

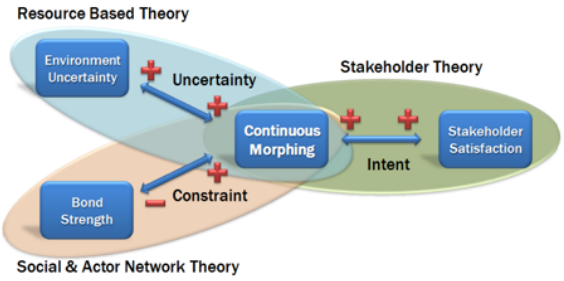


Figure 41: ANM in Practice – Heuristic Device (1)

In Figure 41: ANM in Practice – Heuristic Device (1) the discussion begins with understanding the environment in which the organisation operates. The questions are drawn from theory and from the findings in this study to provide a consistent focus.

The second question area focuses on the resources and their relationships (see Figure 42: ANM in Practice – Heuristic Device (2)):

Is it possible to identify a specific set or group of resources which is changing or has changed?

Is the resource set part of an inter-related system within the organisation?

Can the resource set relationships be explicitly defined through relationship connectivity, strength of dependency?

Is the performance of the resource set captured and tracked over time?

Are there defined performance criteria for the resource set which are captured, tracked and monitored over significant time periods which inform decision making by stakeholders?

What are the real resource actors engaged in the process?

What are their relationships?

Why are they related at all?

What information is being exchanged as the process operates?

Is the information flow time sensitive? Is it content sensitive?

Why do these information flows exist and Who controls the information flows?

For whose benefit are they operating / Who controls the resources and how?

Is there a dependency mapping between the resources which presents inhibitors to change?

How easily can the relationships between the resources change or be changed?

How easily can the information flows be changed in terms of time or content?

How easily can the resource actors themselves change or be changed?

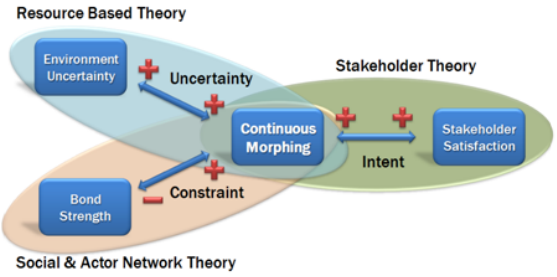


Figure 42: ANM in Practice – Heuristic Device (2)

Finally, the stakeholder element from the ANM model is considered in the final 'slide' (see Figure 43: ANM in Practice – Heuristic Device (3)):

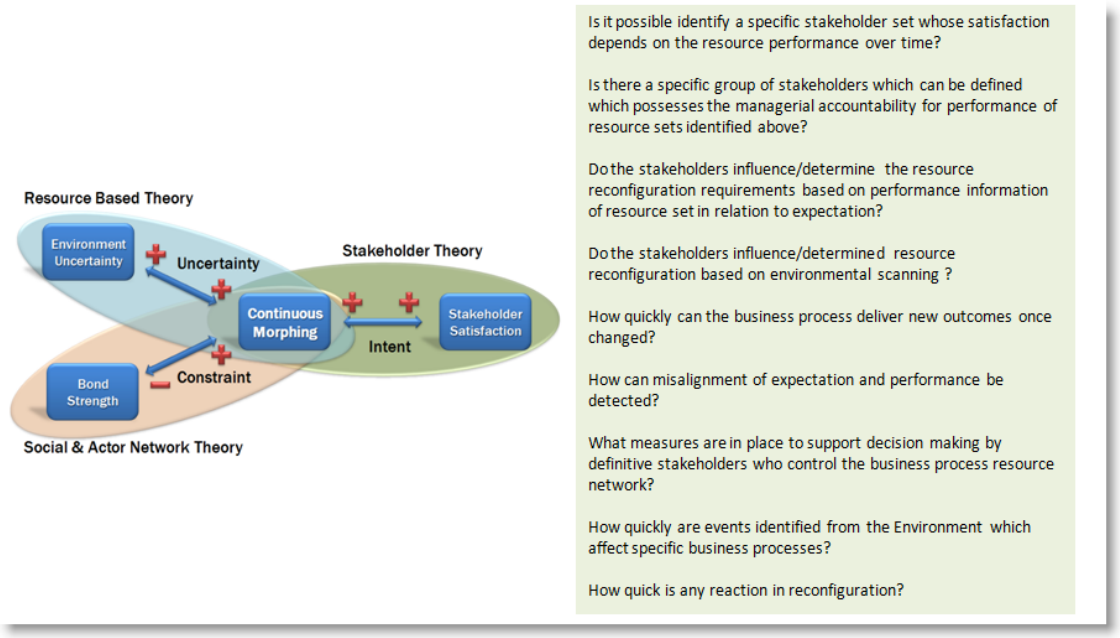


Figure 43: ANM in Practice – Heuristic Device (3)

The reason these question sets are offered is because they lead practitioners to uncover the true network of resources, their interdependencies, and the underlying reasons for their placement or behaviour in process operation.

Mapping the current business process operation is often undertaken in many change programmes. It is often a step-by-step description of "what is" and undergoes a consultative process of "to be". What that process fails to do is map out every resource actor, or group of actors, their controlling party, their inter-relationships, dependencies, and very essence of information exchange.

Practitioners need to be asking questions such as "Why does Doris in Accounting always use the spreadsheet from Bill and not the single source of financial data reported in application X?" "Why is the information flow performing this way?" "What is so important about one artefact that a referential system is bypassed?"

This study explores questions like these for one specific process in one specific organisational context. For continuous organisational transformation, multiple

processes may be involved. The linkage between processes is then a relational factor to consider – and how easily that relationship may be changed may determine the outcome for more than one business process' performance.

Issues such as timing and timeliness are always going to be present. Yet their significance is usually noted in sequential terms only. "If A happens for duration *n*, then B can start". The issue many change programmes face is the acknowledgement of "concurrency" of activity when it affects resources or relationships in a single business process. For practitioners, this is often reflected in Gantt charts for activities, yet not reflected in terms of the actors or the relationships undergoing any change. The simplest questions most often overlooked in this circumstance are "What is going on here? Why this and why now?" The questions that could be asked are "Does timing make a difference here?"

In the practitioner terms, the technique of 'value stream mapping', a Six Sigma concept, is gaining popularity as a means of documenting business processes. Such mapping is typically employed to uncover issues such as lack of supply chain fulfilment, or production/manufacturing wastage. Whist the technique is valuable in uncovering such issues, it falls short of actually identifying the multi-level actors present in a business process resource network, how they inter-relate and why, and for whose benefit.

This study offers practitioners a means to explore and progress COT through BPRN – and to relate that transformation to specifically identifiable stakeholders

6.3 Limitations of the Research

There are four specific limitations in this research.

6.3.1 The Unit of Analysis

The BPRN as the unit of analysis represents a single business process in a single organisational setting. The model developed as a result of the findings

for this specific BPRN is limited in validity and generalisability. Nevertheless, the selection protocol for the research target organisation, and the identification of specific business processes undergoing transformation, means that future research can be undertaken on the basis of replication. Comparative studies for BPRN morphing are then possible.

6.3.2 Longitudinal Study

The biggest criticism of this type of research is one of reliance on participants' memories and recollections of events occurring in the past. Consequently, triangulation with secondary data sources and narrative was undertaken to mitigate this shortcoming. Developing the rich picture through visual mapping (Langley, 1999), and specifically through causal mapping (Snook, 2000) enabled rich description despite the lack real-time engagement throughout the time period covered. Arguably such engagement is unrealistic for a research project.

6.3.3 The Multi-theoretical Approach

This approach was determined as the most appropriate way forward because it became evident from the literature that no one single body of knowledge offered explanation for microstate morphing. Consequently, specific bodies of knowledge – actor network theory, social network theory, stakeholder theory, resource base theory – were drawn upon to describe continuous organisational transformation. Where one body of knowledge offered only limited contribution, other bodies of knowledge were called up to supplement explanation or inform through direct principles.

The danger this approach has is that no one specific point is viewed from a purist perspective. The result of single lens research is that answers and explanation are only applicable or relevant to one body of knowledge.

By contrast, the multi-theoretical approach in this study draws together principles from related bodies of knowledge to provide a richer understanding. No one theory on its own is sufficient to explain BPRN morphing so the single lens approach is inadequate. Only when a multi-theoretical approach is adopted does the BPRN morphing make sense.

6.3.4 The Multi-Level Perspective

Rousseau and House (1994) call for more 'integrative' research to study organisations. Their premise is that researchers cannot inspect at one micro-level, inspect at more macro levels, then expect the sum of the parts to reflect the organisation. Most organisational issues, they argue, span levels in organisations. Consequently, to consider only one level of analysis is blinkering the research outcomes.

To be true to this integrative perspective, visual mapping and temporal bracketing (Langley, 1999) was adopted. More specifically, Snook's (2010) approach of causal mapping was adopted to illustrate the multi-level events over time which affected the BPRN.

The limitation this approach brings is that it tries to offer explanation at every level. The limitation is addressed by offering cross-level explanation, rather than 'within-level' explanation.

6.4 Future Research Directions

There are two research routes identified:

6.4.1 Replication

Firstly, there is the replication route for BPRN study in similar (or even the same) organisations. The benefit the selection protocol brings is that selection of target organisations is consistent, and thus findings have a basis for comparison. Theory seeking (Yin, 1994) with a greater depth of BPRN cases would then lead to more effective theory building (Eisenhardt, 1989).

As Eisenhardt (1989) notes, selection of cases is important because the sampled research population limits and defines the applicability of findings – making generalisation less problematic. In the instance of theoretical sampling, cases may be chosen to replicate previous cases, extend emergent theory, or fill a theoretical category to provide polar exemplar types. The danger with selection of case without theoretical selection is that the results are diluted and non-specific (or worse, only specific to individual cases).

The “logic” underlying the use of multiple case studies is such that each case must be selected so that it either predicts similar results (a literal replication) or produces contrasting results but for predictable reasons (a theoretical replication).

Consequently, to replicate this type of study, the theoretical sampling criteria as defined in Chapter 3 (see Defining the Sampling Criteria and Research Target Organisation Entry Qualification on page 79) may be used to select one of three possible choices:

- A new BPRN within the same organisation with a new set of internal definitive stakeholders;
- A new BPRN with a similar function in a new organisation; or
- A new BPRN with a new function in a new organisation.

The explicit protocols ensure consistency of selection. The defined data gathering and analysis processes ensure the BPRN is examined in an identical way to this study. The findings from both studies will then show either a polar set of findings, or show some congruence. In both instances, micro-state actor network morphogenism will be further informed with the findings either as theoretically contrasting or theoretically supporting these initial findings.

6.4.2 Modelling ANM in Action

Secondly, the Actor Network Morphogenesis model proposed may be used as the basis for quantitative measures to be defined. Such measures already exist for environmental uncertainty – see for example, Werner, Brouthers and Brouthers (1996) measures on perceived environmental uncertainty. This set of measures would provide the basis for understanding COT activity in relation to environmental uncertainty – the P1 proposition identified from the model. The extension is then to correlate COT activity with stakeholder satisfaction – the P4 proposition – linking P1 (representing the operating parameters of the model) with P4 (representing the outcomes).

Such quantitative measures applied across the model would then make it possible to determine the effects of BPRN morphing. Further, such measures would indicate correlation between factors and effects of the generative mechanisms across the model.

The specific findings from this study show that the resource network morphs in a number of ways. In summary, how morphing occurs is as follows:

- by changing the resources engaged in the BPRN
- by changing the relationships between the resources engaged in the BPRN

And morphing occurs:

- as a result of environmental stimuli –regardless of origin, frequency, concurrency or magnitude
- at the specific behest of a uniquely identifiable stakeholder (the 'internal definitive stakeholder'

And morphing is limited (how and when):

- by curtailing the longevity of the configuration of resources and relationships for only as long as that BPRN continue to satisfy the internal definitive stakeholder

These summarised findings were developed into the following propositions:

- P1: The greater the level of environmental uncertainty, the greater the level of morphing
- P2: The greater the number of concurrent triggers, the greater the level of morphing
- P3: the weaker the bond between resources, the more morphing through network interdependencies can occur
- P4: The more the resource network morphs, the greater the level of stakeholder satisfaction
- P5: the greater the time-lag in reconfiguration, the greater the dissatisfaction of the stakeholders

The propositions help answer the research question and formed the basis of the proposed model.

6.4.2.1 Research Design

The initial model of ANM suggests that relationships exist between the factors identified in the propositions. Consequently, the aim of this future research project is to discover the significance of the factors as they relate to ANM. Other factors which emerge from the study will present opportunities for future research.

In the first instance, the proposed approach is to use descriptive and inferential statistical analysis. The reason for this choice is to identify the significance of the factors and their relationships to each other. If the outcomes from the data warrant further analysis (because, for example, a causal relationship appears to exist) then Structural Equation Modelling is appropriate.

This future research will make use of a survey instrument to capture as much data as possible in one central place. The survey instrument will take the form of a questionnaire. This presents the opportunity to send the exact same

instrument to a wide number of people. The survey questionnaire allows respondents to fill it out at their own convenience. Administration and co-ordination of the survey is relatively inexpensive and less resource intensive than other possible methods.

However, the choice of a questionnaire does present some disadvantages. Specifically, response rates to questionnaire based surveys are often very low. Additionally, questionnaires are not the best vehicles for asking for detailed written responses. Nevertheless, it is possible to include questions which prompt for more information or detail.

The alternative survey approach is to conduct multiple interviews. Unlike questionnaire surveys, the interviewer has the opportunity to probe or ask follow-up questions. Interviews are appropriate for seeking opinions or impressions. Interviews can be very time consuming and they are resource intensive especially where the population is dispersed. Having considered this option, it has been set aside.

There will need to be a “data capture” window of opportunity for respondents otherwise such a survey becomes ‘open-ended’. This limitation restricts the analysis to only those valid entries within this time period. The findings are therefore restricted to this specific time period.

There will need to be a minimum number of respondents from the population to ensure a valid population is sampled. Responses will count in the analysis if they satisfy the validity checks and completion criteria.

The survey will need to be piloted prior to release. The pilot group will be a sample of the population. The survey will be tested to ensure that the question language and answer format are understood by the respondents. Additionally, the completed surveys will be tested within the analysis application. This will ensure that the statistical tests are valid and that results can be generated. The questionnaire will be modified as necessary. The structures and coding within

the analysis application will be revised to cater for the modifications. The structure and coding within the analysis application will be revised if the results generation is incomplete.

The modified survey will be retested against a different sample of the population. This replicates the survey process without bias. The test/retest against differing samples is used to improve reliability of the survey. It is generally held that greater consensus between two differing samples indicates greater reliability of the questionnaire. Internal reliability will be tested using Cronbach's alpha. Cronbach's alpha is used to indicate correlation values against every question and every variable. The closer Cronbach's alpha is to the value 1, the higher the reliability estimate of the survey.

All the data collated through the survey will be imported to an analytical application (SPSS). SPSS will be used to perform the statistical analysis to show correlations and significance of the data obtained.

6.4.2.1.1 Measures Definition

The propositions identified from the pilot relate to characteristics of morphing. The characteristics have measures which are developed from theory. The measures are drawn from resource based theory, social and actor network theory, and stakeholder theory. These measures are elaborated into specific questions or statements.

Proposition P1 identifies environmental uncertainty as the factor which affects morphing. Duncan (1972) defined environmental uncertainty as it is perceived (PEU) in terms of complexity and dynamism – there being a positive proportional correlation between the two elements. Later studies (Khadwalla, 1976; Miles & Snow, 1978; Milliken, 1987; Miller, 1993; Werner, Brouthers and Brouthers, 1996) examine aspects of PEU through predictability and information availability in relation to specific factors such suppliers, competitors, customers, financial markets and so on. The multiple measures model (PEU2) developed

by the Werner, Brouthers and Brouthers (1996) has since been empirically tested in further research and shown to be more reliable than previous studies (Werner, Brouthers & Brouthers, 1996, 2000). PEU will therefore be measured using the model developed by Werner, Brouthers and Brouthers (1996).

The PEU2 model from Werner, Brouthers and Brouthers(1996) comprises 28 items which are grouped to measure the unpredictability of a country's government policies (ten items that include tax policies, monetary policy, tariffs and threat of armed conflict), macroeconomics (four items that include inflation rate, exchange rates and interest rates), materials (four items that include the quality and availability of inputs), product market (four items that include client preferences, product demand and availability of substitute products) and competition (six items that include domestic competitors, foreign competitors and entry of new firms). These measures are targeted at the macro-state of the organisation.

By contrast, the BPRN unit of analysis represents a microstate of the organisation. Consequently, this study recognises the internally perceived environmental uncertainties in relation to BPRNs. In the first instance, we consider the resources engaged in the business process. These resource types are the actors which are engaged in the process. From the study in this thesis, a number of actors were observed. These included single individuals to groups of people (acting as a collective), other processes, and specific technology resources or systems. In order to extend the range of actors, it is proposed to use classified groups of resource types. These will then form resource clusters against which analysis can be undertaken.

Emery & Trist (1965) considered internal PEU by measuring intra-organisational connectivity between business processes – the internal interdependencies in effect. They also measured inter-organisational connectivity between internal business processes and the external environment - the transactional interdependencies. BPRN operation through interdependencies and

transactions produces outcomes. The outcomes are generated by the composition and configuration of the BPRN. Consequently, the proposed study includes measures which consider the internal aspects of the organisation which affect the composition and configuration of the BPRN.

To determine the PEU, respondents will be asked to evaluate each section on a Likert Scale where 1 indicates 'very unpredictable' through to 5 meaning 'very predictable'. This ensures a consistency of measurement scale against internal as well as external items.

Proposition P2 identifies concurrency as a factor affecting morphing. To measure concurrency we need to establish 2 things. Firstly, we need to establish whether external events were occurring at the same time as internal events. This provides a view of concurrency in measures of internal and external PEU. Secondly, we need to establish whether the BPRN was undergoing changes in configuration and composition within the same time frame.

Proposition P3 identifies BPRN interdependency as a factor affecting morphing. Grandori and Soda (1998) define interdependency using time sensitivity and information critical as a tie type indicator between resources. Using their definitions, a grid will be used to indicate interdependency between resources engaged in the BPRN. Resources in the BPRN are ‘actors’. Actor types are defined by Law (1992) and Latour (2005). Each actor type will be defined to ensure consistency of terminology.

If the responses indicate that all the relationships between the resources in the BPRN are “strong” (ie type 4 relationships) ***and*** morphing is shown to occur over the timescale, then P3 is potentially false. However, embeddedness of dependency is frequently a trigger of transformational change (ie why radical upheaval is instigated).

Proposition P4 identifies stakeholder satisfaction as indicative of morphing. Specifically, the extended definition of the internal, definitive stakeholder is of interest in this question. The expectations of these specific stakeholders are embedded in the logic of the business process (Braganza & Lambert, 2000). In short, we need to understand the link between morphing activity in the BPRN and stakeholder satisfaction. Consequently, we need to understand the degree to which changes have taken place for the resources in the BPRN, and whether, as a result of those changes, stakeholder satisfaction has changed.

This question is split in 2 parts. Firstly, to determine whether the resources in the BPRN have changed. Secondly, to determine whether the changes are correlated to stakeholder satisfaction. The theoretical premise for this is that Internal Definitive Stakeholder (IDS) expectations are embedded in the operation of the BPRN. Outcomes from the BPRN operation will satisfy (or not) the IDS. IDS will intervene in the BPRN to ensure continuous satisfaction.

Proposition P5 identifies timeliness as a factor of morphing. Specifically, there are 3 aspects of time to consider. Firstly, there is time it takes to recognise that the operation of the current configuration and composition of the BPRN is not meeting IDS expectations. I call this the “lead time”. Secondly, there is the time it takes for IDS to intervene in the BPRN to make operational adjustsments. I call this the “delay time”. Finally, there is the time it takes for the adjusted BPRN to produce outcomes which satisfy the IDS. I call this the “lag time”.

Lead, delay and lag are measured using the respondents perception of “quickly”. For example: “How quickly can you make a change?” or “How long does it typically take for you to recognise that the process no longer meets your expectations?”. Time will therefore be measure using the Gregorian calendar units of 1 day, 1 week, 1 month, 1 year, Longer than a year. Respondents perception of overall elapsed time thus provides the indication of “quickness”.

6.4.2.1.2 Survey Content

The survey will be prefaced with a short introduction to explain the subject area of the survey. Respondent consent to continue will be obtained – those who choose not to continue will be directed to an exit page. Consent to participate in the survey is required to ensure that ethical guidelines are observed. Participation is voluntary and without coercion.

However, once the survey is entered, progression through the questions will be compulsory. This is to ensure greater completion rates and to ensure that each question has a valid answer. The survey will be tested to ensure that it is possible to save answers for later completion.

If any surveys are only partially completed, they will be excluded from the data set for analysis. This is because partial completion of the questions is insufficient to form the data set against which comparative analysis can be made.

6.4.2.1.3 Question Format, Content & Direction

The question format will designed to allow for explanation of the concept being asked about. The reason for this design decision is to help respondents gain a greater understanding of the question topic. Explanation will be limited to avoid bias or leading the respondents to particular answers. The questionnaire will be designed to present a range of answer options so that each respondent can select the most relevant response.

Since the main instrument is quantitative in nature, there is no opportunity to capture any other data except that from the directed questions. In addition to the pre-defined answer options in the survey, respondents will be given the opportunity to provide input as free-form comment text. The inclusion of 'commentary' allows for qualitative data to be obtained. Comment dialogue boxes will be provided at the end of each section to capture topic based feedback. This decision ensures alignment to the overall research philosophy

which acknowledges data which would otherwise have been missed using just the questions in the survey.

The ‘commentary’ capture capacity will be limited to 200 characters. If no comments are made, this is also a valid response. In effect, a null return means that no additional information is offered. Data from “comment” box entry will be analysed separately from the measure based questions. The data will also be coded separately from the questions. This allows content and thematic analysis to be captured in a separate analysis application (NVIVO).

In addition to the researcher, the comment data will be coded by a second reviewer. The second reviewer is an independent view on the data presented. Where the researcher and the reviewer concur on coding, the coding will hold true. Where misalignment is apparent, both researcher and reviewer will discuss the comment content to determine allocation to a particular coding or to develop a new category of coding. In this way, the reliability of the analysis is improved.

The respondents will be directed to consider one specific business process. The process shall be described as “new business take on” or “new client take on” as a way to direct the respondents to identify a specific process.

Since the research propositions relate to each process individually, the exact nature of the business process is immaterial. It is the behaviours of the process and how it changes which are of interest. The impact this has on the findings are that comparisons are not made between identical processes. However, the nature of the sampled population means that each respondent is unlikely to be considering exactly the same process in every instance. By directing the respondents to identify their own business process which fulfils the same function, a more meaningful comparison is possible.

The survey will define “familiar” as “totally conversant with; well informed about; knowing thoroughly, or having a specific interest in” (abridged definition from the

Oxford English Dictionary). The survey will include a number of control questions which specifically relate to the selection of the business process. For example: “Thinking about the business process, do you have any influence or control over the resources engaged in the process?” This is a “Yes/No” filter question which will be used to identify the respondents as internal definitive stakeholders.

All explanatory text within the survey will be kept to a minimum to avoid bias. The pilot phase will be used to confirm the understanding of the survey. Completed surveys which do not satisfy the control conditions will be excluded from the surveys considered in the data set.

In this thesis the time period over which the CMI process evolved spanned a period of 25years. This timescale is unrealistic for a wider population to be considered. This is because it is unlikely that significant numbers of respondents will have such longevity of employment. As a result, the chosen time period over which respondents will be asked to consider morphing activity will be limited to 5 years.

This duration of 5yrs does limit the extent to which transformation can be considered over the time period. By limiting this study to consider only a 5yr period, the interpretation is constrained by the time boundary. Finally, by limiting the considered time period to 5yrs prevents respondents from having the opportunity to assign their answers to a timeframe beyond 5ys. Whilst it is unlikely that any respondent will have been with a company for an extensive period of time, the assignation of answers to older time period would have indicated event rate and pace of change for a longer time frame.

6.4.2.1.4 Ethical Considerations

The research procedures for the survey instrument ensure all respondents will receive the same instrument, with the same instructions and briefing. The instructions and briefing are contained within the survey instrument and

participation will be voluntary (consent will be required). The survey will be in English. The survey will not be translated into any other language because interpretation of phrases or words may alter the meaning and purpose of the question. The questions will be phrased as simply as possible using 'plain English'. (Note: the usability of the survey, especially the language and question formats, are addressed in the pilot stage. Any modifications to language will be addressed from the piloting).

The data being collected will be stored securely and accessible only by survey administrators. It is extremely unlikely that any data will be subject to any data protection or freedom of information legislation. All data will be treated as confidential and only used in aggregate in subsequent reporting to respondents.

There is no immediately available pre-existing research instrument which uses the content areas or proposed measures. The instrument developed here is specific to this phase of empirical research. The instrument itself will be piloted through a proofing process to check for clarity and or possible offence. The option of selecting "N/A" will be available to respondents if they choose not to answer the question. However, in the interest of ensuring as much survey data is collected as possible, completion of the survey will be required. Surveys with 80% or more of the questions answered as "N/A" will be discounted as unusable. (Note: the usability of the survey, including the response options, is addressed in the pilot stage. Any modifications to the answer format or options available for selection will be addressed from the piloting).

The proposed research project does not entail deliberately withholding information from, deceiving or misleading participants about the true purpose of the research or about the researcher. There is also no foreseeable risk of any participants experiencing either physical or psychological distress or discomfort as a result of participation in the survey. There are no significant power differences present, nor do dual or other complicating relationships exist between the researcher and the proposed target population.

The target population does not include children (under 18 years of age), people with learning or communication difficulties, patients or people in care, people in custody or people engaged in illegal activities.

6.4.2.2 Population Targeting & Sample Definition

The widest possible definition of the population against which this survey can be administered includes all managers in organisations where change is occurring or has occurred. This is definition of population is too broad to reasonably consider within the timescale available. Therefore, a sample has to be drawn from this population of managers and a target sample of this population is necessary to bring focus to the project.

6.4.2.2.1 Characteristics of Respondents

The characteristics of the respondents will need specific definition. They will be typically senior managers, CxOs and corporate strategists. They are the most likely population to have their expectations embedded in business processes and be familiar with organisational change. The survey will include a number of 'control' questions to determine whether the respondents for the required respondent profile.

The control questions will be used to filter out those managers who do not:

i) directly engage in changing the organisation;
ii) exert any direct influence over the placement or availability of resources
iii) have any interest in the outcome or performance of business process

Respondents who satisfy these control questions will have their survey responses included in the analysis. All other completed surveys will be disregarded. This control measure ensures a more valid data set is obtained to support the analysis required to answer the research question.

There is no requirement to identify any specific individual or an individual company. There will be an opportunity for respondents to supply an email address in the event they wish to receive a research report generated from the aggregated data. The only demographic data which will be collected about each individual shall be their role in the organisation and their employment duration.

The purpose of such demographic characteristics is to improve the internal reliability of the survey data. Through correlation analysis, it will be possible to stratify the data by the time periods over which change has been observed by the specific respondents.

6.4.2.3 Measure Characteristics

The basic measure proposed is that of a 5-point Likert scale. This allows for comparative significance to be determined in relation each question. Each question will relate to one of the proposition topics – environmental uncetainty, bond strength, or stakeholder intent. The scale proposed will be consistent in terminology across all questions. This ensures a congruent basis for analysis against each item.

This scale will be used in each question and the questions will be phrased to accommodate the scale of responses. Thus the same scale can be used to understand the perceptions of the difficulty of changing resources in a process as well as the extent to which the respondents regard their expectations as satisfied. Additionally, the consistent use of the scale engenders a familiarity with the survey instrument on the part of the respondent.

An N/A or null answer option will be included in the questions. The reason for inclusion is to permit “”don’t know” responses. Where this option is selected as a consistent answer the survey results will be discounted as incomplete. This will be recorded as “disregarded complete surveys”. This is a recognised limitation to the survey findings.

6.4.2.4 Instrument Pilot

The instrument will be piloted through the test/retest process to improve the reliability of the survey instrument. The pilot will use a sample of 10 random respondents form the SPS membership. The sample 10 represent 10% of the target number of valid responses required (100). The survey will be distributed to the 10 respondents for completion. This will provide a means to address any issues of understanding the logic construction of the questions, the language and terminology, the answer format and ease of use. A record of the issues raised by the pilot group of respondents will be kept. Adjustments to the survey design (logic, language, answer format) will be made directly to the survey instrument. A log of the changes made will be kept to cross reference to the pilot group issues.

6.4.2.5 Results Generation

The initial data collation will be performed by the web hosted survey engine. The data will be exported into a common file format for importing into the analysis tool set. The analysis tool set is SPSS. SPSS will be used to undertake analysis of variance (ANOVA) and other regression based measures against the factors identified. Correlation and regression tests will be used to determine the significance of factors in relation to others. This also permits more than one variable to be measured (i.e. addresses the issue of mono-causality – the attribution of the reason for morphing to a single cause).

6.4.2.6 Validity of Approach & Considerations

6.4.2.6.1 Instrument Rationale

The purpose of this future research by means of the proposed survey is to understand the findings from this thesis as they relate to the wider population. A survey instrument is chosen to capture the widest possible respondent audience. The use of the survey instrument provides a means to distribute the series of focussed questions without direct personal contact. The same

questions could be administrated through interviews. Such an engaged approach would be significantly time-consuming for the estimated sample size of 1000+ respondents. The engaged approached presents additional challenges where the population is geographically dispersed, potentially globally.

6.4.2.6.2 Instrument Delivery Considerations

The ease of administration through an online delivery vehicle enables central data collection. It also provides a single point of access for all survey respondents. It also means the survey can be undertaken in the recipients own time rather than through formal interview which consumes more time.

It is also possible to distribute the link to the online survey through multiple media channels such as email, professional networking web sites, and news-letters. This increases the likelihood of a greater response rate (thus improving the reliability of the findings)

6.4.2.7 Limitations and Constraints

Like all surveys, the findings will be limited in applicability to the sample of the population. However, the aspiration is to garner a selection of industry sectors and organisation types – private sector, public sector, government, academia, and charitable organisations. Additional stratification through demographic analysis will select a more specific population within this sample. Findings will therefore be more reliable in relation to specific criteria such as European enterprises whose turnover exceeds €50million.

The time period over which data will be collected will be limited to a defined time period (unless the respondent numbers are less than 100). Only those valid entries completed within the time frame will be considered. Valid responses are possible outside of this timeframe but the survey data collator will be disabled and no further data entry will be possible.

The analysis application will run specific tests to estimate the reliability of the data through the pilot phase and through the data analysis phase. Any significant variation between the pilots will result in survey modification. Additionally, the validity checks built in to the survey will limit the number of surveys for analysis. Incomplete or discounted surveys will be excluded

A Draft Survey is provided in Appendix 5 (see page 350)

6.5 FLS Today – An Update since 2008

By way of setting the context, FLS were more than mid-way through their 10year strategic thrust to 'Grow the Business'. The preceding phase – 'Scale the Capability' – clearly providing the platform for that growth. This is reflected best in the financial performance over this period, something which is not immediately obvious when considering the multi-layer process evolutionary map. This performance is illustrated in Figure 44: FLS Today – Growing the Business:

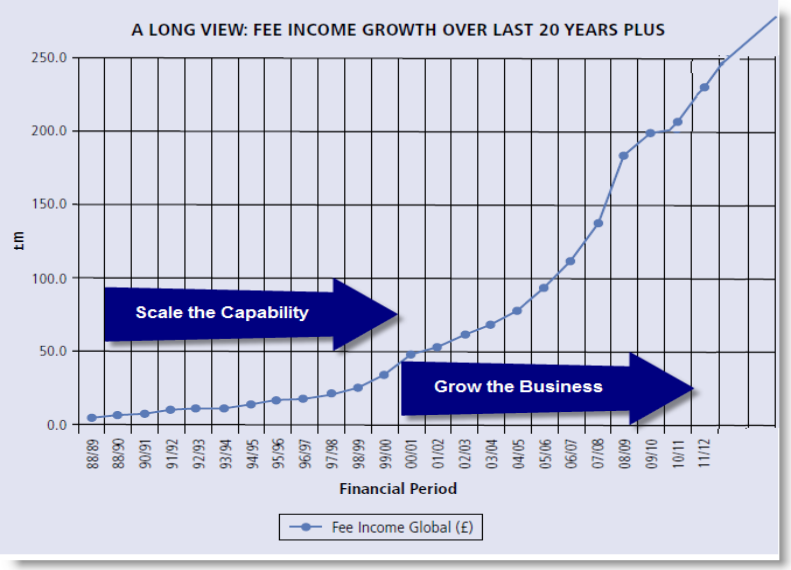


Figure 44: FLS Today – Growing the Business

The challenge of growth has led to the firm sharpening its sector focus and expanding internationally. At the turn of the millennium FLS was poised to

become a full service, technology-lead legal firm. Its limited client matter induction process was restricted to its own offices – and global expansion was seen as the route for increased business.

In the latest strategy briefing documentation (April 2015), FLS made the following statements:

“First, we plan to follow the technology into new sectors as the power of technological innovation is adopted and developed in a growing number of contexts…

Second, we aim to continue our path of international expansion by entering new territories in Asia, the Middle East, South America and other high-growth emerging markets… opening offices and entering innovative co-operation agreements… target is that 20% of the firm’s turnover should be in Asia within the next three to five years...

Third, we shall take advantage of the wave of regulatory change which we believe will sweep around the world in the next few years. It has already started in the UK, where the Legal Services Act 2007 is acting as a catalyst for cultural change, so that law firms can be structured in a variety of ways and lawyers can combine with other types of professionals... [FLS] will be well placed to offer clients a spectrum of high-level professional services.” ~ [Strategy Brief 2015]

As the firm continues to expand rapidly…the internal systems and infrastructure needed to evolve. In doing so it remains crucial to avoid creating a large corporate ‘overhead’.

The strategy statements provide the basis for understanding the new strategic thrusts – ‘Technological Innovation & Exploitation’, and ‘Emerging Market Expansion’. Internal systems and infrastructure evolution has already begun with the adoption of technology resource virtualisation, ‘cloud based’

functionality to enable global accessibility to Case Libraries, global client issues and subject matter experts' knowledge portals.

Connectivity to the 'London Home' is essential, and its relationship to any remote office information provision is seen as 'intense' by the Partners. Shared information flows, and virtualised resources have enabled FLS to begin its expansion into their targeted emerging markets. External events such as regulatory change – noted as the third key point for FLS to exploit – will drive the delivery of their services. FLS will structure themselves to recognise, adapt and exploit such occurrences – 'maintaining their weather eye'.

Client Matter Induction – as the new business take on process – remains one of their most important business functions. Its evolution to support their strategic objectives remains at the behest of their internal definitive stakeholders – the Partners, the COO, and CEO. The importance of the process is significant considering that 2 of the 3 strategic thrusts identified rely upon CMI to bring in business to FLS.

6.6 Personal Reflection

There is nothing worse than being at the end of a journey, and having only limited recall of the start. To that end, at the outset of this DBA, I began to write an online blog. Its aims were two fold: to capture my thoughts and feelings as a doctoral student going through the mill of academic rigour; and to have a record of the challenges, celebrations, disappointments and nuances of the study process. The full blog entries remain available online at: http://www.avocationink.com/DBAblog/

One of the strongest themes to have emerged from this blog is my ability to convey the contents of my head in written form – clearly, concisely, without ambiguity, and without the assumption that the reader knows exactly what I am talking about. It remains a challenge to this day. But one (I hope) that time and testimony will attest to my determination to conquer.

It has been a pleasure and privilege to have papers accepted at world-renowned academic conferences, to engage with scholars and practitioners from across the globe, and to have real conversations about real brain-worthy problems – ones which we, as business folk, can help solve through directed research and application of knowledge.

In one of the latest blog posts is the entry:

I've always achieved anything worthwhile in my life through relentless determination (which most call "bloody mindedness"), and to coin the favourite phrase of an ex-boss, "relentless execution" (interpreted more often than not as: "persistent plodding"!)

To that end, I have to offer my sincerest of thanks to those who have seen me through every determined step, with their wisdom, generosity, and encouragement.

I recall the Cranfield interview process, the proposal and the grilling – and having in my head this accumulation of experience, anecdotes, and client engagements aka “stuff” which explains how or why organisations get stuck when they try changing, and knowing that somewhere in the mêlée of it all were answers if only I knew how and where to look.

And thanks to the guidance along the way, I do know how and where to look for answers.

I still have to remember that I cannot hold everything in my head – I suspect this personality trait is enduring regardless!

Even so, as an individual (a consultant, an author, a student), I have a mind which challenges everything I am told; I don’t ‘read’ any more, I ‘critically read’; I don’t just ‘hear’, I ‘listen to understand’ to develop informed opinion – no matter what the subject.

And for that developmental journey, I am grateful to those upon whose shoulders I have stood.

Post-Script to the Viva

The viva process itself was one of the most challenging yet enjoyable discussions I have experienced. Despite the challenge of ‘corrections’, the insightful comments and requests for changes have brought much greater clarity to the work. The encouragement and support to ‘still think’ on the topic is humbling. And to ‘still think’ and seek underlying causes, and to see the ‘world’ taken apart using robust frameworks for analysis is one of the greatest gifts I feel I have been given.

My approaches to consulting assignments now have more valid, credible and robust strategies for assessing, understanding, and informing opinion and decision making. Better yet, illustrating evolutionary dependency maps brings

greater insight to ‘what’, ‘when’, ‘where’ and ‘who’. Had this journey not been undertaken, these things would not be within me today.

Again, I remain indebted to my Panel of Supervisors, and the External and Internal examiners without whom this thesis would be the poorer save for their guidance.

6.7 Chapter Summary

In this chapter, the conclusions and theoretical contribution were presented. The limitations of the research were discussed, and potential future research opportunities were identified. A brief update for FLS is included to record their growth to date and next strategic objectives – and where CMI as a BPRN will feature in their future. A personal reflection concludes the chapter.

The remainder of this thesis comprises the Appendices, structured as follows:

Appendix 1 contains the introductory letter presented to the target organisation to present this researcher, together with the subject briefing pack;

Appendix 2 contains the resource relationship definition matrix used to support the identification of bond strength between resources;

Appendix 3 contains the interview log record and workshop participant data

Appendix 4 contains the transcripts of the interviews with 2 sets of key informants;

Appendix 5 contains the proposed survey instrument in preparation for future research.

_ ends -

Bibliography

Anderson, P. (1999), 'Complexity Theory & Organization Science', *Organization Science*, Vol. 10, pp. 216-232.

Ansoff, H.I. (1991), 'Critique of Henry Mintzberg: Reconsidering the Basic Premise of Strategic Management', *Strategic Management Journal*, Vol. 12, pp. 449-461.

(1995), *The Boundaryless Organization: Breaking the Chains of Organizational Structure*, Jossey-Bass, San Francisco, CA, USA.

Barney, J.B. (1991), 'Firm Resources and Sustained Competitive Advantage', *Journal of Management*, Vol. 17, pp. 99-120.

Barney, J.B. (2001), 'Resource-Based Theories of Competitive Advantage: A Ten Year Retrospective on the Resource-Based View', *Journal of Management*, Vol. 27, pp. 643-650.

Baum, J. and Singh, J. (1994), *Evolutionary Dynamics of Organizations*, Oxford University Press, New York, USA.

Bhaskar, R. (1978), *A Realist Theory of Science*, Harvester Press, Hassocks, UK.

Bhaskar, R. (1979), *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*, Harvester, Brighton, UK.

Bhaskar, R. (1989), *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*, Verson, London, UK.

Bhaskar, R. (1994), *Plato, Etc: The Problems of Philosophy and Their Resolution*, Verso, London, UK.

Bhaskar, R. (2008), *A Realist Theory of Science*, Routledge, London, UK.

Bhaskar, R. and Danermark, B. (2006), 'Metatheory, Interdisciplinarity and Disability
Research: a Critical Realist Perspective', *Scandinavian Journal of Disability Research*, Vol. 8,

Bhaskar, R., Fank, C., Hoyer, K.G., Naess, P. and Parker, J. (2010), *Interdisciplinarity and Climate Change: Transforming Knowledge and Practice for Our Global Future*, Routledge, Abingdon, UK.

Biedenbach, T. and Soderholm, A. (2008), 'The Challenge of Organizing

Change in Hypercompetitive Industries: A Literature Review ', *Journal of Change Management*, Vol. 8, pp. 123-145.

Bird, S.E., (2007) *'Applying Visual Methods in Ethnographic Research'*, in Doing Cultural Anthropology. 2nd edition. Angrosino, M. ed. pp. 129-138.

Blaikie, P. (1993), *Approaches to Social Enquiry*, Polity Press, Cambridge, UK.

Borgatti, S., Everett, M. and Freeman, L. UCINET. Kentucky, USA: Analytic Technologies; 2007.

Braganza, A. and Lambert, R. (2000), 'Strategic Integration: Developing a Process-Governance Framework', *Knowledge and Process Management*, Vol. 7, pp. 177-186.

Brown, S. and Eisenhardt, K. (1997), 'The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations', *Administrative Science Quarterly*, Vol. 42, pp. 1-34.

Buckles, T.A. and Ronchetto, J.R. (1996), 'Examining an Industrial Buyer's Purchasing Linkages: a Network Model and Analysis of Organizational Buying Workflow', *Journal of Business & Industrial Marketing* , Vol. 11, pp. 74-92.

Burn, J. and Robins, G. (2003), 'Moving Towards E-Government: a Case Study of Organisational Change Processes', *Logistics Information Management*, Vol. 16 , pp. 25-35.

Burnes, B. (1996a), *Managing Change: A Strategic Approach to Organisational Dynamics*, Pitman, London.

Burnes, B. (1996b), 'No Such Way As a "One Best Way" to Manage Organizational Change', *Management Decision* , Vol. 34, pp. 11-18.

Burnes, B. (1997), 'Organizational Choice and Organizational Change', *Management Decision*, Vol. 35, pp. 753-759.

Burnes, B. (2004), *Managing Change: A Strategic Approach to Organisational Dynamics*, Prentice Hall, Harlow, UK.

Burns, T. and Stalker, G.M. (1961), *The Management of Innovation*, Tavistock, London.

By, R. T. (2005), 'Organisational Change Management: A Critical Review', *Journal of Change Management*, Vol. 5, No. 4, 369–380

Callon, M. (1986), 'The Sociology of an Actor-Network: the Case of the Electric Vehicle', *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*, Macmillan, London, pp. 19-34.

Capra, F. (1996), *The Web of Life*, Harper Collins, London, UK.

Checkland, P.B. and J. Scholes (2001) Soft Systems Methodology in Action, in J. Rosenhead and J. Mingers (eds), Rational Analysis for a Problematic World Revisited. Chichester: Wiley

Cooper, DJ., Hinings, B., Greenwood, R. and Brown, JL. (1996), 'Sedimentation and Transformation in Organizational Change: The Case of Canadian Law Firms', *Organization Studies*, Vol. 17 , pp. 623-647

Demil, B, & Lecocq, X, 'Business Model Evolution: In Search of Dynamic Consistency', Long Range Planning Vol 43, pp227-246

Donaldson, L. (2005), 'Following the Scientific Method: How I Became a Committed Functionalist and Positivist', *Organization Studies*, Vol. 26, pp. 1071-1088.

Dooley, K.J. (1997), 'A Complex Adaptive Systems Model of Organisation Change', *Nonlinear Dynamics, Psychology, and Life Sciences*, Vol. 1, pp. 69-97.

Dunphy, D. and Stace, D. (1993), 'The Strategic Management of Corporate Change', *Human Relations*, Vol. 48, pp. 905-918.

Dyer, J.H. and Singh, H. (1998), 'The Relational View: Co-Operative Strategy and Sources of Inter-Organisational Advantage', *Academy of Management Review*, Vol. 23, pp. 660-679.

Easterby-Smith, M., Thorpe, R., and Lowe, A. (1997), *Management Research: An Introduction*, Sage, London, UK.

Eisenhardt, K.M. (1989), 'Building Theories From Case Study Research', *Academy of Management Review*, Vol. 14, pp. 488-511.

Eisenhardt, K.M. and Martin, J.A. (2000), 'Dynamic Capabilities: What Are They?', *Strategic Management Journal*, Vol. 21, pp. 1105-1121.

Emery, F. and Trist, E. (1965), 'The Causal Texture of Organizations.', *Human Relations*, Vol. 18, pp. p21-32.

Feldman, M.S. (2000), ‘Organizational Routines’, *Organization Science*, Vol 11 (6), pp. 611-629

Feldman, M.S. and Pentland, B.T. (2003), 'Reconceptualizing Organizational Routines As a Source of Flexibility and Change', Administrative Science Quarterly, Vol. 48, pp. 94-118.

Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach*, Pitman, Boston, USA.

Frooman, J. (1999), 'Stakeholder Influence Strategies', *Academy of Management Review*, Vol. 24, pp. 191-205.

Gersick, C.J.G. (1991), 'Revolutionary Change Theories: A Multi-Level Exploration of the Punctuated Equilibrium Paradigm', *Academy of Management Review*, Vol. 16, pp. 10-36.

Glaser, B.G. and Strauss, A.L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine, New York, USA.

Grandori, A. and Soda, G. (1998), 'A Relational Approach to Organizational Design', in *EGOS Colloquium:*

Granovetter, M.S. (1973), 'The Strength of Weak Ties', *The American Journal of Sociology*, Vol. 78, pp. 1360-1380.

Granovetter, M.S. (1982), 'The Strength of Weak Ties: A Network Theory Revisited', *Social Structure and Network Analysis*, Sage, Beverly Hills, CA, USA

Helfat, C. and Peteraf, M.A. (2009), 'Understanding Dynamic Capabilities: Progress Along a Developmental Path', *Strategic Organization*, Vol. 7, pp. 91-102.

Holland, J.H. (1995), *Hidden Order: How Adaptation Builds Complexity*, Addison-Wesley, Reading, MA, USA.

Hutt, M.D., Reingen, P.H. and Ronchetto, J.R.J. (1988), 'Tracing Emergent Processes in Marketing Strategy Formation', *Journal of Marketing*, Vol. 52, pp. 4–19.

Johnson, P., Buehring, A., Cassell, C. and Symon, G. (2006), 'Evaluating Qualitative Management Research: Towards a Contingent Criteriology', *International Journal of Management Reviews*, Vol. 8, pp. 131-156.

Kauffman, S. (1996), *At Home in the Universe: The Search for the Laws of Self Organization and Complexity*, Penguin, London, UK.

Kogut, B. and Zander, U. (1992), 'Knowledge of the Firm: Combinative

Capabilities and the Replication of Technology', *Organization Science*, Vol. 3, pp. 383-397.

Langley, A. (1999), 'Strategies For Theorizing from Process Data', *Academy of Management Review*, Vol. 24, pp. 691-710.

Larkin, G. (1996), *'Storyboarding: A Concrete Way to Generate Effective Visuals',* Journal of Technical Writing and Communication, Vol. 26, pp. 273-289

Latour, B. (2005), *Reassembling the Social: An Introduction to Actor Network Theory*, Oxford University Press, Oxford, UK.

Law, J. (2004), *After Method: Mess in Social Science Research*, Routledge, London.

Lawler, E.E. and Worley, C. (2006), *Built to Change: How to Achieve Sustained Organisation Effectiveness*, Jossey-Bass, California, USA.

Lawrence, P. and Lorsch, J. (1967), 'Differentiation and Integration in Complex Organisations', *Administrative Science Quarterly*, Vol. 12, pp. 1-47.

Lewin, A. and Volberda, H. (1999), 'Prolegomena on Co-Evolution: A Framework for Research on Strategy and the New Organizational Forms', *Organization Science*, Vol. 10, pp. 519-534.

Lewin, K. (1947), 'Frontiers in Group Dynamics', *Human Relations*, Vol. 1,

MacKanzie, K.D. (1986), *Organizational Design: The Organizational Audit and Analysis Technology*, Ablex, Norwood, New Jersey (USA).

Marshak, R.J. (2004), 'Morphing: the Leading Edge of Organisational Change in the 21st Century', *Organization Development Journal*, Vol. 22, pp. 8-21.

McCarthy, I.P., Lawrence, T.B., Wixted, B. and Gordon, B.R. (2010), 'A Multidimensional Conceptualisation of Environmental Velocity', *Academy of Management Review*, Vol. 35, pp. 604-626.

McKelvey, B. (1999), 'Self-Organization, Complexity and Catastrophes, and Microstate Models at the Edge of Chaos', *Variations in Organization Science (In Honor of Donald T Campbell)*, Sage, Thousand Oaks, CA.,

McMillan, E. (2006), *Considering Organisation Structure and Design From a Complexity Paradigm Perspective* Open University, Milton Keynes, UK, pp. 1-14.

McPherson, J.M., Popielarz, P.A. and Drobnic, S. (1992), 'Social Networks and

Organisational Dynamics', *American Sociological Review*, Vol. 57, pp. 153-170.

Miles, M.B. and Huberman, A.M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Sage, London.

Miles, R. and Snow, C. (1986), 'Network Organisations: New Concepts for New Forms', *California Management Review*, Vol. 28, pp. 62-73.

Mills, A. J., Eurepos, G., and Wiebe, E. (2010), *Encyclopaedia of Case Study Research*, Volume 1, Sage, London

Mingers, J. (2006), *Realising Systems Thinking: Knowledge and Action in Management Science*, Springer, New York, USA.

Mintzberg, H. (1987), 'Crafting Strategy', *Harvard Business Review*,

Mintzberg, H. (1993), 'The Pitfalls of Strategic Planning', *California Management Review*, Vol. 36, pp. 32-47.

Mintzberg, H. and Waters, J. (1985), 'Of Strategies, Deliberate and Emergent', *Strategic Management Journal*, Vol. 6, pp. 257-272.

Mitchell, R.K., Agle, B.R. and Wood, D. (1997), 'Towards a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts', *Academy of Management Review*, Vol. 22, pp. 853-886.

Morris, T. and Empson, L. (1998), 'Organisation and Expertise: An Exploration of Knowledge Bases and the Management of Accounting and Consulting Firms', *Accounting, Organizations and Society*, Vol. 23, pp. 609-624.

Myers, M.D., (2013), Qualitative Research in Business and Management, London: Sage

Nelson, R.E. and Matthews, K.M. (1991), 'Network Characteristics of High Performing Organisations', *Journal of Business Communication*, Vol. 28, pp. 367-386.

Orlikowski, W.J. (1992), 'The Duality of Technology: Rethinking the Concept of Technology in Organisations', *Organisation Science*, Vol. 3, pp. 398-427.

Orlikowski, W.J. (2007), 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies*, Vol. 28, pp. 1435-1448.

Orlikowski, W.J. and Hofman, J.D. (1997), 'An Improvisational Model of Change Management: the Case of Groupware Technologies', *Sloan Management*

Review, Vol. 38, pp. 11-21.

Penrose, E. (1959), *Theory of the Growth of the Firm*, Blackwell, Oxford.

Peteraf, M.A. (1993), 'The Cornerstones of Competitive Advantage: a Resource-Based View', *Strategic Management Journal*, Vol. 14, pp. 179-192.

Pettigrew, A.M. (1992), 'The Character and Significance of Strategy Process Research', *Strategic Management Journal*, Vol. 13 (Special Issue), pp. 5-16.

Pfeffer, J. and Salancik, G. (1978), *The External Control of Organization: A Resource Dependence Perspective*, Harper Row, New York, USA.

Rindova, V. and Kotha, S. (2001), 'Continuous Morphing: Competing Through Dynamic Capabilities, Form and Function', *Academy of Management Journal*, Vol. 44, pp. 1263-1280.

Roth, W.D. and Mehta, J.D. (2002), 'The Rashomon Effect: Combining Positivist and Interpretivist Approaches in the Analysis of Contested Events', *Sociological Methods and Research*, Vol. 31, pp. 131-173.

Rothaermel, F.T. and Hess, A.M. (2007), 'Building Dynamic Capabilities: Innovation Driven by Individual-, Firm-, and Network-Level Effects', *Organization Science*, Vol. 18, pp. 898-921.

Rousseau, D.M. and House, R.J. (1994), 'Meso-Organizational Behaviour: Avoiding Three Fundamental Biases', *Journal of Organizational Behaviour*, pp. 13-41.

Rousseau, DM. (1985), 'Issues of Level in Organizational Research: Multi-Level and Cross-Level Perspectives', *Research in Organizational Behaviour*, Vol. 7, pp. 1-37.

Rowley, T.J. (1997), 'Moving Beyond Dyadic Ties: A Network Theory of Stakeholder Influences', *The Academy of Management Review* , Vol. 22, pp. 887-910.

Rubin, H., and Rubin, I., (2005), *Qualitative Interviewing: the art of hearing data*, Sage, London

Smith, A, (1904), *An Inquiry into the Nature and Causes of the Wealth of Nations*, Methuen & Co Ltd, London.

Smith, R.A.I. (1968), 'Social Systems Analysis and Industrial Humanism: Awareness Without Revelation', in

Snook, R. (2000), *Friendly Fire: The Accidental Shootdown of US Black Hawks Over Northern Iraq*, Princeton University Press, New Jersey, USA.

Stacey, R. (2007), *Strategic Management and Organisational Dynamics -The Challenge of Complexity*, Pearson Education, Essex.

Stacey, R.D. (1995), 'The Science of Complexity: An Alternative Perspective for Strategic Change', *Strategic Management Journal*, Vol. 16, pp. 477-495.

Strauss, A. and Corbin, J. (1998), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Sage Publications, Thousand Oaks, Calif. USA.

Teece, D.J., Pisano, G. and Shuen, A. (1997), 'Dynamic Capabilities and Strategic Management', *Strategic Management Journal*, Vol. 18, pp. 509-533.

Tichy, N.M., Tushman, M.L. and Fombrun, C. (1979), 'Social Network Analysis for Organisations', *Academy of Management Review*, Vol. 4, pp. 507-520.

Waldrop, M.M. (1992), *Complexity: The Emerging Science and the Edge of Order and Chaos*, Simon & Schuster, London, UK.

Wall, S.J. (2005), 'The Protean Organisation: Learning to Love Change', *Organizational Dynamics*, Vol. 34, pp. 37-46.

Weick, K.E. and Quinn, R.E. (1999), 'Organizational Change and Development', *Annual Review of Psychology*, Vol. 50, pp. 361-386.

Wilson, B. and van Haperen, K. (2015) Soft Systems Thinking, Methodology and the Management of Change (including the history of the systems engineering department at Lancaster University), London: Palgrave MacMillan

Yin, R. (1994), *Leadership and the New Science*, Berrett-Koehler, San Francisco, CA. USA.

Yin, R. (1994), *Case Study Research: Design and Methods (Applied Social Research Methods Series 5)*, Sage Publications, Thousand Oaks, USA.

Yin, R. (2003), *Case Study Research: Design and Methods*, Sage Publications , Thousand Oaks, USA.

Appendix 1

Introductory Letter & Target Organisation Briefing Pack

Letter of Introduction used in the Case Method to introduce the researcher into the target organisation:

6th October 2008

Cranfield UNIVERSITY
School of Management

To whom it may concern,

This is to introduce Heather Stebbings, a highly qualified individual with wide experience in the field of "Organisational Capability".

Heather has been engaged in an Executive Doctorate in Business Administration with Cranfield School of Management since September 2005 and will be conducting a series of case studies with the purpose of better understanding the evolution of adaptive capability in organisations through the concept of interdependencies in resource networks.

Ultimately, by means of this case study approach, Heather hopes to define the nature of the "morphing organisation" in terms of the facets required to satisfy stakeholders' changing expectations through continuous systemic adjustments in resource network forms. The further implications of how these facets can be incorporated into organisation design will allow practitioners to enhance the effectiveness of their change programmes and ultimately influence the design of adaptable organisations.

This letter is directed to all the participants of the research study that Heather will be conducting. Your cooperation is most essential if the case studies are to successfully guide and support the final report.

On behalf of Cranfield School of Management, Heather's academic institution, and Brunel Business School, the academic supervisor institution, I wish to express our gratitude for your assistance.

Kind regards,

Ashley Braganza
Academic Supervisor & Subject Matter Expert
Professor of Organizational Transformation
Deputy Head of School
Director, Executive Development Programmes
Chair, BAM SIG Transformation, Change and Development
Brunel Business School
Brunel University
Uxbridge
Middlesex UB8 3PH
UK
T: (+44) 01895 267 613
F: (+44) 01895 269 770
M: (+44) 07976 886 286

Research Briefing Pack used in the Case Method to support the introduction of the researcher into the target organisation:

Research Briefing Pack

Cranfield UNIVERSITY

Exploring Morphing Organisations

Heather Stebbings
Research Project
Doctorate in Business Administration

www.cranfield.ac.uk

Exploring Morphing Organisations

Cranfield UNIVERSITY

- Why is this research important?
  - Companies still struggle to implement change on a rapid and continuous basis especially when they operate in chaotic conditions
  - Companies are still designed for stability, not rapidity of reaction
  - Understanding continuous morphing helps companies build change capabilities
- How YOU can help
  - There are special characteristics your company may have which helps you to "morph" more effectively than others
  - By studying these characteristics, you can understand how you can react more effectively to turbulent operating conditions
- What's in it for you?
  - You understand how you can influence your own organisation in changing its form and functions when faced with the rapid and relentless need to change

www.cranfield.ac.uk

Exploring Morphing Organisations

Cranfield UNIVERSITY

- Who am I targeting?
  - Companies which exist in turbulent or high rate of change environments
  - Companies which have adapted a core business process in the last year or so as a direct result of these pressures
  - Companies where the adaptation of this core business process is controlled or governed by a critical figure such as a CxO

www.cranfield.ac.uk

Exploring Morphing Organisations

Cranfield UNIVERSITY

Qualifying Criteria

- Does the organisation exist in a complex, inter-related context in its competitive domain?
  - Example:
    - Is the organisation related to or dependent upon other organisations through defined relationships?
- Do circumstances or triggers occur frequently which require rapid responses or changes in form & function?
  - Example:
    - Does the organisation need to respond rapidly to changes in external governance such as legislation, regulation or market pressures?
  - Do these responses trigger internal reconfiguration of resources or reconfiguration of relationships?
- Does the organisation deliberately scan its environment in order to detect changes to which it needs to react?
  - What (if any) mechanisms are in place to do this?
    - They can be deliberate (ie a defined function such as R&D or Sales) or ad hoc such as informal exchanges
  - Are they linked to performance management information systems?
  - Are there deliberate feedback mechanisms in place which indicate that change is necessary?
  - Is "change" a result of key stakeholders' dissatisfaction in performance ?
- Can the organisation change its form & function to meet the perceived requirement?
  - Example:
    - Resource sets are reformed/reconfigured to deliver alternative performances based on stakeholder requirements

www.cranfield.ac.uk

Exploring Morphing Organisations

Cranfield UNIVERSITY

- The Research Process
  - What I need to do:
    - Map out a core business process (before & after pictures in effect) as a network of resources
    - Talk to the critical people who directly govern that resource network to understand how it has changed and why
    - Build a picture of "morphing" for a core business process
  - What I need from you:
    - About 2 hours in total
      - 1 hour to help me "map" the business process network of resources
      - 1 hour to help me understand the changes to that network

www.cranfield.ac.uk

Exploring Morphing Organisations

Cranfield UNIVERSITY

- Addressing Your Concerns
- Confidentiality?
  - I can "anonymise" everything if you wish to protect confidentiality, privacy or sensitive data
  - All data collated will be consolidated to support an intra-industry comparative study and you are welcome to have a copy of findings once complete
- Introducing me formally to your company?
  - Letter of Introduction to key people
  - Briefing Pack
- You can find out about me here:
  - http://www.som.cranfield.ac.uk/som/dba/biogs/showbiog.asp?is=168 (Exec Doc Student Biographies)

www.cranfield.ac.uk

Sampling Interview Template

Introduction and Interview Purpose:

"Thanks for agreeing to participate in this initial interview. The purpose of this session is to determine whether your organisation fulfils certain criteria so that we can discuss the potential use of the company as a research target for a study on organisational change. Could I confirm that I've got about thirty minutes of your time for this initial session?"

Research focus recap:

I'm conducting doctoral research supervised by Prof Ashley Braganza (Organisational Transformation at Brunel) – while I study at Cranfield's School of Management. My background experience includes twenty years experience in the IT/consulting sector, with the last 8 specialising in organisational change. I'm working full time on client projects while I complete my doctorate.

The topic I'm investigating is how companies undertake continuous transformation – I use the term "morphing" to describe this process.

In terms of the research process and the timeline: I aim to conclude the majority of interviews by the end of autumn and have the project written up by spring. Everything you tell me will remain confidential and you are welcome to receive a copy of my report. With your permission I would like the opportunity to use the data I discover in academic papers.

The people I hope to talk to will be key internal stakeholders and the owners/controllers of resource/capability and performance management.

Do you have any questions for me at this stage/ is there any clarification required?

I'd like to continue by asking you a series of questions which relate to the company and how it changes as a result of internal or external pressures.

Types of Questions to support the Qualification discussion:

Does the organisation exist in a complex business world (many relationships with many others; perhaps many dependencies; perhaps many sources of market forces; multiple sources of change)

How does your company manage its interactions with its operating environment? How does it detect changes to which it needs to react?

Do change triggers occur frequently which require rapid response in form and/or function?

How does the company demonstrate the reaction to events?

Is there a specific resource set which has been engaged/is still engaged in changing as a result of any internal/external events or requirements? How is this change coming about?

Is the resource set part of a specific process?

Does the performance of the resource set matter to anyone? If so, who?

Is the performance of the resource set captured and tracked over time?

Are there defined performance criteria for the resource set which are captured, tracked and monitored over significant time periods which inform decision making by stakeholders?

Are there specific stakeholders whose satisfaction of expectation depends on the resource performance over time?

Do the stakeholders influence/determine the resource reconfiguration requirements based on performance information of resources in relation to expectation?

Extract 1: Sampling Criteria Interview Template

Sampling Criteria Selection Results – The Decision Framework

Criteria	Factors	Selection Determinants	Interview Responses	Decision Rule
Adaptive Capability	Does the organisation deliberately scan its environment in order to detect changes to which it needs to react? What mechanisms are in place to do this? Are they linked to performance management information systems? Are there deliberate feedback mechanisms in place which indicate that change is required? Is "change" a result of key stakeholders' dissatisfaction in performance ? Are resource sets reformed/reconfigured to deliver alternative performances based on stakeholder requirements ? Can the organisation change its form & function to meet the perceived requirement?	Environmental scanning is carried out by a defined function; Explicit/defined link to performance management information systems; Explicit/defined link to key stakeholders; Explicit/defined link to identified changes made to form/function	Yes: JD as Mkt adviser; SMEs through direct client contact Yes: portfolio is critical link to demonstrate performance Yes: JD is COO and his r'ship is to CEO Yes: "well bloody well fix it"	If responses satisfy 4/4 response criteria, proceed to next set [adaptive system is open & exhibits reconfiguration according to stimulus]; Otherwise exclude case Decision Record: All these conditions are met
Market Context	Does the organisation exist in a complex, inter-related context in its competitive domain? Is the organisation related to or dependent upon other organisations through defined relationships? Do circumstances or triggers occur frequently which require rapid responses or changes in form & function?	At least 3 relationships exist with other entities within the market context; Explicit identification of change trigger types and sources inc. frequency of occurrence; Change triggers can be directly related to internal reconfigurations of resource sets and /or relationships Change triggers generate alternative	Yes: there are internal and external triggers Yes: the sources can be identified; frequency MAY be an issue but eg legislative output is frequent & regular from global institutions Yes: change drives alternate relationships at process and company levels	If response satisfies a minimum of 3 criteria, proceed to next set [dynamic, complex market context drives change and resource reconfiguration requirement]; Otherwise exclude case Decision Record: All 4 are met – over qualified!

		relationships which may include external entities/resources		
Resource Sets	Is it possible to identify a specific set or group of resources which is changing or has changed? Is the resource set part of an inter-related system within the organisation? Can the resource set relationships be explicitly defined through relationship connectivity, strength of dependency? Is the performance of the resource set captured and tracked over time? Are there defined performance criteria for the resource set which are captured, tracked and monitored over significant time periods which inform decision making by stakeholders?	Explicit resource sets defined inc. their relationships; Resource set performance is captured and reported in a consistent method over at least 9 months Note: 9 months is used a minimal qualifier to establish frequency of consistent reporting	Yes: specific CMI process (Client Matter Induction) Yes: dependencies exist in CMI Yes: CMI performance link to portfolio min 8 years	If responses satisfy 3/5 criteria, proceed to next set [focus on resource set not a single resource; there is consistent demonstrable evidence of performance]; Otherwise exclude case Decision Record: There is an explicit resource set for CMI; it has changed several times in last 25 years; the outputs from the process determine its success Inclusion conditions are met
Stakeholder Set	Is it possible identify a specific stakeholder set whose satisfaction depends on the resource performance over time? - is there a specific group of stakeholders which can be defined which possesses the managerial accountability for performance of resource sets identified above? - do the stakeholders influence/determine the resource reconfiguration requirements based on performance information of	Explicit stakeholder set defined; Managerial accountability & decision making is inherent in role(s); stakeholders influence/ determine resource relationships &	Yes: CEO, CIO as the main controlling parties Yes: role & remit for CxO Yes: control the CMI process	If responses satisfy 3/3 response criteria, proceed to Case Method [resource configurations only exist for as long as they satisfy stakeholders]; Otherwise exclude

	resource set in relation to expectation? - do the stakeholders influence/determined resource reconfiguration based on environmental scanning ?	reconfiguration requirements		Decision Record: Ultimately single stakeholder, but specific ones governing process are there; they make change happen; they control the process and its components. Conditions met.
			Result:	Use for STUDY

Table 34 Sampling Criteria Interview Decision Framework

Appendix 2

Typology for Describing Resource Relationships

Type	Time Sensitivity	Information Criticality	Description
I – Disjointed	No	No	This is derived from situations in which one or more common resources are used to perform various activities, but in which action does not alter the state of the resource nor is so frequent as to call for a programmed use of the resource (as in the use of a common equipment or space). Alternatively, activities may be even linked sequentially but they can be performed without taking into account the timing and content of other activities
II – Sequential	Yes	No	Time specificities and constraints represent a first type of possible complication. If the demand for using common resources piles up at certain times, programmed time sharing regime in using the resource is in order. If activities can be performed separately but the timing of one of them set limits on the timing of others (for example because the transformed items can decay) then programs (or routines) are expected to be necessary and sufficient mechanisms for coordinating behaviour need to be in place.
III – Reciprocal	No	Yes	An information feedback between activities for adjusting the operations on the basis of information on how other operations have been performed or need to be performed may be necessary; or between resource nodes on the modification occurred or foreseen in a resource used in common (e.g. enrichments of know-how, functioning problems in a machine). Therefore communication channels should be established between activity or resource nodes, either through direct communication ties, through liaison roles. This type of relationship exists where it is the information content which is important but not necessarily the timing of the information exchange
IV - Intensive	Yes	Yes	This is characterised by the need of real time adjustment between activities exchanging resources (as it may occur in process technologies) or between resources employed in a joint activity (as it may happen in complex construction activities). Task or resource aggregation in integrated units or teams is in order to govern those dense

			interdependencies

Table 35: Business Process Resource Network Relationship Identification

Appendix 3

Interview Log & Workshop Participants

Interview Log

Date	Name	Title / Role	(min)	2nd interview?	(min)	Follow up call?	(min)	W'shop	Notes
15/09/2008	Alan Goodridge	Senior Partner	35	03/10/2008	15	24/10/2008	5	n	
	James Duck	COO	45	03/10/2008	30	24/10/2008	10	n	Over 30yrs!
	Ian Salter	Client Liaison	30			29/10/2008	20	y	10yrs in co
16/09/2008	Michael Beckinsale	Client Accounts	30					n	
	Vanessa Ridgefield	Client Accounts	45	14/10/2008	30			n	
18/09/2008	Tobias ("Toby") Quinn	Client Reporting	50	22/10/2008	25			y	International offices reporting
	Vivien Tupper	Client Reporting	35					n	
22/09/2008	Jean-Michel Prideaux	Technologist	35					n	
	Phillipe Deschamps	Technologist	50	14/10/2008	45	24/10/2008	10	y	Has understanding of the tech history
24/09/2008	Matthew Chandler	Accounts	30					n	
	Susanne Bentham	Accounts	45			03/10/2008	20	y	Works with Audit
	Zoe Abrahams	Accounts	45			03/10/2008	15	y	Irregularity tracking reports
29/09/2008	Fabienne Dorrell	Tech Project Mgr	75	10/10/2008	45			y	Case History migration project experience
	Jonathan ("JP") Partridge	Tech Project Mgr	65	10/10/2008	40			y	Case History migration project experience
01/10/2008	Ingrid Rollason	Billing	55	22/10/2008	35			y	Works with Accounts n Client Liaison
	Mary Knight-Rutledge	Billing	45					n	
	Janek Krawczyk	Records	55			14/10/2008	15	y	Used to work in Resource Planning
	Matt Chapman	Records	70			14/10/2008	10	y	Used to work in Resource Planning

03/10/2008	Joyce Cavanagh	Process SME	50	16/10/2008	35			y	15yrs in co
	Patricia Beatty	Process SME	35	16/10/2008	30			y	8yrs in co
07/10/2008	Maria Consuela Martinez Arania	International Accounts	55	22/10/2008				n	
	Rachel Bennington	UK Liaison	35					n	
09/10/2008	Nigel Oakley	Tech Strategy	35			15/10/2008	30	y	Contracts outsourcing & critical systems
	Nick Nye	Tech Strategy	30			15/10/2008	15	y	Service Manager
	Fergal Moynihan	Tech Project Mgr	40					n	
14/10/2008	Christos HajiGeorgiou	Contracts	50			23/10/2008	5	y	Book to Bill contract reconciliation
	Nick Beecham	Contracts	55			23/10/2008	15	y	Book to Bill contract reconciliation
15/10/2008	Keith Nugent	Client Liaison	55			24/10/2008	10	n	
	Maddie Franks	Process SME	45			24/10/2008	15	y	9yrs in co
	James Hong ("Jimmy")	International Accounts Practice	50			23/10/2008	25	y	International offices reporting
20/10/2008	Anna Starkey	Specialty Mgr	35	22/10/2008	25			y	SME groups co-ordinator
	Colin McLintock	Specialty Mgr Practice	45	22/10/2008	15			y	SME groups co-ordinator
	Rob Cowdrey	Specialty Mgr	45					n	
22/10/2008	Martin Laverick	Audit	75	24/10/2008	30	27/10/2008	10	y	11yrs in co; brought in to ensure Portfolios maintained
	Ben Moore-Roberts	Audit	55			27/10/2008	15	y	Developing IS systems with Accounts
	35		**27h10m**		**6hr40m**		**4hr5m**		

WORKSHOP

Date	**Name**	**title/role**	**Att?**	**Follow up call?**	**(mins)**
30/10/2008	Ian Salter	Client Liaison	y	03/11/2008	10
	Tobias ("Tobi") Quinn	Client Reporting	y	03/11/2008	15
	Phillipe Deschamps	Technologist	y	03/11/2008	20

Susanne Bentham	Accounts			
Zoe Abrahams	Accounts	y	03/11/2008	10
Fabienne Dorrell	Tech Project Mgr			
Jonathan ("JP") Partridge	Tech Project Mgr	y	03/11/2008	15
Ingrid Rollason	Billing	y		
Janek Krawczyk	Records	y		
Matt Chapman	Records			
Joyce Cavanagh	Process SME	y	03/11/2008	10
Patricia Beatty	Process SME			
Nigel Oakley	Tech Strategy	y	03/11/2008	10
Nick Nye	Tech Strategy			
Christos HajiGeorgiou	Contracts	y		
Nick Beecham	Contracts			
Maddie Franks	Process SME	y		
James Hong ("Jimmy")	International Accounts			
Anna Starkey	Practice Specialty Mgr	y	03/11/2008	15
Colin McLintock	Practice Specialty Mgr			
Martin Laverick	Audit			
Ben Moore-Roberts	Audit			
		12		

Appendix 4

Transcript Extracts – Key Informants

Interview Schedule:

Location: FIRST LEGAL SERVICES Offices, Fetter Lane, London

Date & Time: 8th October 2008; 11:00 start

Attendees: HS, James Duck, Alice Brown

Objective: Qualification Discussion

Materials: LOI/BP hard copies; DVR

Transcript starts:

H: …again Alice. How are you?

Alice (A): Well, thanks

H: Ok. I've brought with me the formal letter of introduction and the briefing pack I emailed to you. Suggest we use that as a start point?

A: Sounds fine.

H: I have an outline set of questions I need to ask in order to qualify you into the study – the briefing pack has the gist of them. Shouldn't take too long to go through. I have my voice recorder gadget on the table – do you have any objections to being recorded at all?

A: Not at all – I am sure you need a record of everything just like we do. I am sure James won't mind either. I suppose you have to write this all up don't you? Will it go in your report or something?

H: Well the transcript will probably form the basis for the next phase of research – if of course you can satisfy the selection points! I know it sounds mean, but I

have to apply an academically sound method of entry criteria otherwise I could just pick any firm at random. Appealing though that may be, I'd rather do it properly!

A: Oh hi James. This is Heather, she's the doctoral research student we talked about last week. You remember? I met Heather on a client project and she asked if she could use us as a potential case study. Morphing. Thought you might like sit in.

James (J): Hello Heather I'm delighted to meet you. James James Duck, I'm the senior chap who looks after stuff for the CEO. No I know that's a bit glib but that's probably more accurate than any business card can tell you!

H: Hello James, Heather Stebbings, Canfield University. Thanks for agreeing to see me today.

J: Cranfield? Gosh. Oh no problem at all. Alice said I might enjoy the chat. Isn't that where the jet engines stuff went on? Milton Keynes isn't it? And you study there? Not mechanical engineering then! Alice tells me you're interested in evolving firms. Is that it?

H: Yes that's it. Yes jet engines and aeronautics research goes on in the school of engineering. Yes its near Milton Keynes. No I'm not an engineer (of the jet engine variety anyway!); I'm in the school of management, studying for my DBA. That's Doctorate in Business Admin. I'm especially interested in how organisations evolve in turbulent environments. Oh before I forget, do you have any objection to me recording you? I have my gadget on the table there – the little red light means its working. I have to check.

A: Heather has to record everything to support her write up. Almost like court stenohs in hearings. I've said I don't mind at all. Its all research isn't it?

J: Of course Heather, it's fine. Really. I understand. And you have to write it all up? Bloody hell. Alice will tell you I can ramble a bit so if I get too wordy one of

you kick me [laughs]. I'm sure it won't come to that. Stop looking so worried. So what's the format here? How's this going to work?

H: Well what I have to do in this first session is understand if your firm will actually be suitable as a case target. I have with me my formal letter of introduction and a briefing pack so you know this is a genuine research request.

J: Don't see many of those much these days do you? Formal letters of introduction. Had to have one when I first started out. I'm surprised you still have them. Emails a curse as well as a blessing I think. Well thank you for the letter anyway. Alice have you seen this? Have you ever had one of these? No?

A: No I don't think so. Is this Ashley your tutor or something?

H: Ashley is a Professor at Brunel. He is supervising my doctoral studies and he's coaching me through this research process and he gets to use red pen a lot. No I'm kidding. He's a subject matter expert in the area of organisational change – which is why I am under his wing. He's my academic sponsor. He's probably got to read this later on! [laughs]. Hi Ashley this is H! No seriously…

J: So how can Alice and I help you Heather? I mean I thought the briefing pack was a good call – thanks for that – doesn't mean I understand all the words and academic language mind you, but more than happy to have a discussion on it. Is that the deal here?

H: Yes what I'd like to do is talk through the qualification process – I've actually got an outline script to help me. Is it ok if I use that to frame our discussion? There is some academic jargon in there but I am more than happy to explain everything, does that sound ok?

J: Yes of course. That work for you Alice? Did you have to do any of this stuff when you were studying?

A: Well I had to write dissertation stuff of course, but I don't think its anywhere near what you're doing. I don't envy you this task. How much have you got to do?

H: That depends. This piece of research I hope will be the first part of a series of cases where I start to understand how organisations evolve though specific means.

A: Oh yes you said earlier didn't you.

H: How about I formally introduce the subject? I'm not sure how I'll get this transcribed yet so a marker on record is good….So just by way of introduction, this is me and I am talking with AliceAlice Brown and JamesJames Duck of {BLANK]. It's a global legal firm who specialise in commercial law and we are at the offices in Holborn London. I'd like to thank you both for agreeing to participate in this interview. Could I confirm that I've got about 30 minutes of your time?

A: Yes that's fine. James we have this room till 12 so we're fine till then. I think someone will be in with the coffee in a moment, I just saw the facilities guy. So you were saying?

H: Yeah I'll Just to recap the research focus. I'm conducting doctoral research supervised by Professor Ashley Braganza – he's my academic supervisor and specialises in Organisational Transformation and he's at Brunel. I'm studying at Cranfield. My background experience includes 20 years experience in the IT/consulting sector, with the last 8 specialising in organisational change. I'm working full time on client projects while I complete my doctorate.

J: Are you mad? You're doing this as well as a full time job? God I know you have client projects like we do. That's a tough one. How's it going?

H: Well it's a challenge I'll tell you that.

J: I bet. Sorry you were doing to the intro bit before I chipped in there.

H: No its fine. I'll continue. So the topic I'm investigating is how companies undertake continuous transformation – I use the term "morphing".

J: Oh yes this is what Alice was talking about the other day. And you think morphing is a way of explaining this organisation evolving process. Nice imagery actually. Do we morph? Yes I think we do. It sort of implies a shape changer doesn't it. Is that what we're talking about here? Alice's looking at me. Am I leaping ahead of myself? Heather?

H: Well yes just a little. I'd like to make sure that [BLANK] qualify as a potential morphing company in the first instance. To get through the qualification process though, I do need to make sure you satisfy certain criteria. Otherwise I can't use you. I mean I can't use [BLANK] & [BLANK]. I just have to make sure my selection process is rock solid otherwise the research may be regarded as flawed.

J: Ah yes the house of cards syndrome.

H: Sorry?

J: Building case evidence on shaky foundations. Like a house of cards. All it takes is one card to be removed and it's a pile a cards, not a house. House of cards syndrome. Yes?

H: Exactly, If I don't get this right, my research can be pulled apart. That's why the entry criteria have be set and I have to qualify my research targets. Yeah so I am especially interested in a core business process which has changed over the last year or so. I'm looking to understand what

resources are engaged in that process, and how they link to each other, and how they work together. Oh and who controls or has a primary interest in that process, like the outputs from it. Because if the process doesn't deliver the results, then I am making an assumption that someone somewhere will be unhappy and want to do something about it.

J: Well yes I'd say so. I mean we have a number of processes which have changed, mainly because the CEO gets upset when things don't happen as he wants them to. Is that what you mean? Do you want to know all the processes which we've changed or ….

H: No no I'd like just one in the first place. I think there's a set of principles which may apply to lots of processes but I'd like to explore those through the use of one process example. It might be that I can then say these principles apply to other processes in lots of companies, or only in certain

circumstances. That's probably me prejudicing the outcome already. I'll probably be picked up on that.

J: I am sure they won't Heather – its my fault I asked the question. Who gets to hear this anyway? Oh no its probably written up. Well tell whoever is listening I'm probably not making this easy am I. Where were we?

H: I was going to finish the introduction bit. Yeah so in terms of the research process and the timeline… I aim to conclude the majority of interviews by the end of October and have the project written up by February. I can make sure that everything you tell me will remain confidential and you will receive a copy of my report. With your permission I would like the opportunity to use the data I discover in academic papers.

J: Yes Heather that's absolutely fine. I'm not sure that bandying around the good name of [BLANK] & [BLANK] is all that beneficial and I may seek advice but take it for now that you may use us in good faith. We're not going to have to disclose any material facts are we that would be construed as commercially sensitive or anything? Alice? I don't think we have a level of exposure do we?

A: No no I think this is fine. Its just one process that you need, isn't it Heather. I mean we're not talking about how we do commercial litigation are we? No, so I think its fine. James if you want to clarify any position later then that's fine.

H: I can tell you I have an entire Ethics Committee thing I have to go though to ensure I treat the subject area, the study targets, the participants and the data collected, I have to sign and be accountable for doing this all ethically and politically correctly. Probably sounds a bit daft saying it like that.

J: No no not at all, think of it as treatment of evidence. Lord knows if we balls it up we can literally end up in court [laughs].

H: Anyway. I've chosen your company because I think you have a number of differentiators in relation to existing studies - unaddressed industry which is subject to an increasingly turbulent operating environment; you have complex relationships at business process level; and you change to address the requirements you're faced with. The people I hope to talk to will be key internal stakeholders and the owners/controllers of resource/capability and performance management. That's probably both of you isn't it? Would it be ok to talk to others if necessary?

A: Well that does depend on who it is and why. Probably depends on what you want to uncover and which business process you're interested in. I mean if the process can be any business process – can it involves more than just people? I mean we rely on technology a lot. Everything has to go through our data thing these days. You know I'm wondering if we can't get Paul up here. Tell you what, lets do this qualify thing and see where we tip out – we'll have a good idea then what level of detail you'll need. Sound like a plan?

J: Sounds like a plan. How does that work for you?

H: Well that sounds ok. I'm sure its fine. I've got my last bit of intro to do then we can crack on with the meaty bits. So for the purposes of my research, I'm defining the morphing organisation as a networked configuration of resource/capability which exists only as long as it satisfies internal definitive stakeholders' expectations. I can see that's just raised a few eyebrows. That's my academic speak for the process remaining static with no changes to either

relationships or constituent parts of the process for as long as it continues to perform to certain expectations. Is that any clearer?

J: Oh I see what you mean. Don't fix if it isn't broken. Or only meddle when you want change. Sure.

H: Do you have any questions for me at this stage/ is there any other clarification required?

A: No no that all sounds fine. I'm sure we can muddle through and it's not like we're shy at asking questions.

J: Of course Alice is right. How about you ask a question and if that sparks a debate we can nail down a full answer. You're going to mark us aren't you? Does this mean if we say the wrong thing we don't qualify?

H: No no there are no wrong answers. What it does mean is that I need to understand if your answers match the types of responses or confirm the conditions I am looking for in order to get over the hurdle of yes I can study you or no I cant. That's why my supervisor calls this the hurdle interview. So you both ok to continue?

J: Yes yes, fire away. Sure thing.

H: So the first hurdle for me to understand is how adaptive [BLANK] & [BLANK] is to its environment. I call it an adaptive capability. Can you tell me if you deliberately search or scan your operating environment to detect any changes to which you need to react?

J: You mean do we keep a weather eye on what's going on? Yes of course we absolutely do. We cant afford not to. I mean if I take my role for example, as an adviser on strategy, I absolutely have to understand a number of different influences. Just take the outside world for a moment. As a law firm, we have statutory law with the corporate aspects to that –and yes, those things change and they change through every case precedent that's set or applied, or a new

set of rules in applicability is handed down. And we have to watch for that because it then changes or may change the advice we provide to clients. Ah and we of course have legislation through regulatory impacts which we need to consider. Take the green initiative for example. Airlines. CO2 emissions. Lobbying the case for pass on cost, or setting up specialist units to deal specifically with emissions legislation enactment. Yes I'd say we do. Is that the kind of answer you want here? Is that ok? I don't want to just come out with all this guff n twaddle if it is not the right thing so you do have to clue me in here. Yes? Good. Shall I talk about the other influences too? I mean do you want to know about other firms we operate with, or compete with?

H: I think so. I need to understand how you act and react with your environment, and if you behave the way you do to adapt to other influences like other companies in your market, then yes.

J: Well the thing is there are lots of players out there. I mean they do the same type of things we do. And it's not about being bigger better faster more anymore. No I don't think so. No what I think it comes down to is how we turn it round. Yes we have to act alongside these other firms, but you know they have their way of doing business and we have ours. Clients come to us – corporate ones – we don't really do much personal work, unless if course the top man finds himself in a spot of bother. Can I say that? No of course I can't comment. So clients come to us. They're a great source of inspiration you know. And all they while they have a problem or a tricky transaction, then we're there. And we get to know about typical problems that occur in particular sectors. I mentioned airlines didn't I. And public sector government work. What a mess some of those transactions are. No that's personal opinion really strike that. Public sector. Great source. So I'd say we really we're very good at tapping into solving our customers problems. As for others in the market well of course I can only speak for us. They do their thing, we do ours. We're better of course [laughs]. No seriously. It probably all comes down to who has the biggest

portfolio and case value. Size matters. [laughs]. We don't have to be big to have a big client portfolio. No no. We get where we are by our capability to do stuff – that's why clients come to us. And if we can forward them, so much the better. Would you say that's a fair reflection of our market position?

A: That's a rambling way of saying yes I think so isn't it. What James is saying is that we do check out everything going on around us. Our clients, latest cases, if there's another firm taking on a specialty. Eyes and ears open all the time. I don't think we can regard ourselves as successful if we can't address what's going on.

H: You mentioned success…

A: Hmmm… well if I go back to what James said, portfolio is a huge indicator. Clients, cases, value. There's this whole client billings side to the business. You don't need to know about actual values do you? No? Good. So portfolio case load and client value. More is more. Actually though, it not just more of the same. Our ability to support client transaction is critical, and the more adept we are in understanding their problem, the better placed we are to advise. And win. And collect fees. Portfolio is a huge measure actually.

J: Alice's right. Portfolio is key. If some poor chap running one of the industry lines isn't doing well, portfolio suffers. And they're rewarded on portfolio. Makes them a paranoid bunch. Probably wont thank me for saying that. This is on record isn't it. Can you edit that bit out or tone it down? I don't want this published as James said the chaps here were a paranoid bunch! I'm not lying though. I think this paranoia about not keeping up or not being able to serve the client or not having a fast enough turn round to conclude transactions, which means billing, which means portfolio value, do you see where I am going?

H: So what happens when your portfolio isn't regarded as successful?

J: Ha now there's a poser. Worst case? Well some Johnnie gets the chop. Too drastic for you? No I could give you the big HR speak about managing poor performers but that's probably not what you want. No? No. Let me think about that. When stuff goes pear-baloney-who-ha what do we do. What do we do Alice? We bloody well fix it is what we do. There's a CEO who gets really upset and he does, trust me on this, call the shots. We'll rejig lines of business, move subject matter chappies about, recut portfolios to bite size chunks and glue back in the business process. I wasn't joking about the paranoia as a driver you know. It's not just the what's in it for me angle, it's the what happens if I don't keep up or stay ahead of the game. I know you probably think of your world as pretty fast paced, but when you're driven by the need to stay ahead of the game, let me tell you we have to be pretty fleet of foot. These chaps have to anticipate market moves, legal moves, implications of a bloody word changing on a case judgement for christs sake. That's probably a fair view.

A: Yes and I think its worse because the paranoia is fuelled by the portfolio postings.

H: Postings?

A: Yes yes we post our results. Not publically. Well not until the annual report process kicks in and we have statutory filing. No no this is internal. Creates an atmosphere, a tension of co-opetition. Not competition mind. That would leave someone worse off. It does create an element of that, but the postings show the portfolio, values, growth, client base. And if we start spotting issues then we do something about it. I mean take the time we had the German office guy here. He was aviation.Couldn't understand why we hadn't gone through the EU CO2 rulings. Kyoto. Green movement. Set

up portfolio, brought in the trade advisor Sir someone or other, kicked off the history file and discovered a long standing environmental campaign thing where

no one had advised the aircraft manufacturers. Client list? They were queuing up! Next thing we know, we have SMEs in the

implications of the environmental legislation, targeted to sector. Postings, yes, pretty important.

H: Are postings the link to drive change for you when performance isn't regarded as successful? I love James's words, pear-baloney-who-ha? I'm sorry I'll have to steal that one!

J: Like I said Heather, portfolio is key. When that's not right, we act. Absolutely we act. Is it triggered by postings? Yes partly. Is it triggered by our paranoid drivers to stay head above water yes absolutely. When the CEO is happy, we're happy. If he's not…well… we fix it!

H: You know I am just looking at my qualifier prompts here and I think I can probably answer the whole market context ones on what you've just said.

A: You can? What does that mean?

H: Well I have a set of criteria that come from theory which help me to determine whether you – I mean [company name] and [company name] – exist and operate in what's called a turbulent or high velocity environment.

J: You do? This all part of that leaping over the line so we qualify for more biscuits if we go past the hour? No I'm just teasing you. Please feel free to ask away. Think I've done most if the talking anyway! They're not trick questions are they?

H: No no its not about trying to trap any answer. Making me paranoid now! Actually these are probably pretty binary now I think about it. I mean, if I said, does your company operate in a complex, inter-related market then you would say…

J: Yes we do. Lots of players. Clients, legal institutions, other firms. Yes. Absolutely.

H: Do you have specific relationships with other entities? I mean if I think about the insurance industry,then some firms are linked through the agent, insurer, underwriter model…

J: That actually implies dependency of some form. Or a contract. Yes we do. We have undertakings. Matter induction. Clients. And of course we have specialist firms we call on or other firms we bring in to do business. This bits quite easy!

H: Do you have change triggers occurring frequently?

J: You mean internal or external? Yes I think we've covered much of this. We absolutely have both. Do we respond to what goes on the market? Yes we do – we have to. Do we rejig when portfolio postings aren't acceptable, no acceptable's the wrong word, satisfactory? Yes we do. Is this balancing constraints thing?

H: Well it could be. I'm trying to work out how you morph, and this is just the just the hurdle bit and I'm already wondering when I can come and see you again! Let me go through the rest of my pointers – is that ok with you?

J: Of course Heather. I'd hate to think I hadn't played ball.

H: So what I'm trying to get to is the specific rejigging that you just mentioned as a result of your circumstances. Is there a specific process or function which has rejigged in the last year?

J: Hmmm. How complicated do you want to make this? Simple is better? Less is more?

A: James? You just talked about matter induction. That's our business development and take on process if you will. We rejigged that because the take

on wasn't effective. That's how we picked up the history file fiasco. That's changed in the last year or so. In fact, we've had to formalise that

process more and more to ensure a referential integrity to prevent client conflict of interest. And we can drag in Paul. He probably knows more than I do on it. Can we involve more people? Does it have to be just people? I mean the history file is essentially some data warehouse thing. Its all to do with client case repositories. Can you look at things with technology in them? It's a business process right?

H: Oh yes, I really want a specific process that has different elements in it, and if those elements have changed, or that way they work together has changed, then that sounds really good.

A: What do you think James? I think client matter induction could be a good target for Heather. I mean you're after the principles that help you understand the how aren't you. And its not like this is trade secret stuff, I'm sure all our legal counterparts do something similar. James?

J: What about the project last year to put in the portfolio posting piece? I mean that's a business process and we wouldn't have the visibility of the state of play without that. How about that?

A: That was just a technical reporting thing. All we did was redirect output to the database. The business process didn't change did it. No no we need to help Heather here with a business process that's changed. I think CMI is a good example. I mean I've been here for a few years now and its had to change a few times over then. Oh this is the link to the evolution thing isn't it. How far back do you want to go? I can do 5 years. James's been here forever bless him, barring a stint in the wilderness, then he came back. It's a process with people and things in it then, and how its changed. That's what we need isn't it?

H: That sounds good to me.

A: James said something about balancing constraints earlier didn't you James. Yes you did. I mean half the reason why end up changing how we work is to keep up, catch up, or stop screw up. Oh that's going to come out on the tape isn't it. You won't give this to any one else in the legal sector will you? Can you change the names to protect the innocent?

H: Please rest assured that data will remain confidential. I can protect the names if you would like me to. I think I mentioned the whole ethics thing at the beginning. I am sure it won't be a problem if I need to replace the name [BLANK] & [BLANK] with Mystery Legal Firm, and Alice with Person 1 or something. I'll ask the Ethics Committee if I need to.

A: So does CMI sound like a do-able thing? What else do you need to know? Are we over the hurdle?

H: I am sure you qualify but I will need to scribble all this talking down and make sure I get the ticks in the boxes.

J: Well that's fair enough. If the evidence isn't there then you've no case to answer, so to speak. No pun intended!

A: You'll have to excuse James.

H: No its fine. Can I ask just quickly about the CMI process?

J: Ha! Yes your last question was a short one and I rambled for ages… no go on.

H: How do you know the CMI process works?

J: Well of course it works, we wouldn't be in business otherwise! No sorry. Statement of the obvious. You're probably digging a little deeper aren't you. How do we know? How do we know? Well we know because if it doesn't, we don't build the portfolio. We know because client take on suffers, which means no turn round, no fees, no postings. Its our process link to the outside world I

suppose. Hmmm. And it changes because its not doing the right things, right. And sometimes that means we get better by changing the order we do things in. Or we change by doing something different, or punting in new systems like Alice mentioned, so we have a central points of reference. Is that what you mean?

A: You know ultimately, if [name] isn't happy, then he does make change happen. And the first place he looks is against the portfolio. And what drives the portfolio? New business and repeat business. And what underpins that? CMI.

J: Yes its all about who has skin in this game. Its about keeping all the people happy all the time. No, that's not true. It's about keeping [name] happy. And if he isn't, Alice's right. We bloody well fix it.

H: well I am conscious that I've taken up the best part of an hour now. For the record I would like to thank you both for letting me talk with you this morning – now lunchtime. Please can I ask if it would be ok for me to contact you again if I have any queries or cant understand my notes or this gadget?

J: Its fine Heather really, I quite enjoyed our little chat. I'll make sure we have nicer biscuits too. Will you come back and see us?

H: I am sure I will. Alice thanks so much for setting up the meeting.

A: No problem. So what's left?

H: well I need to write all this up and worry about the qualification process. I am sure the client process you talked about is going to fit the bill for a follow up.

J: so assuming that's the case, what more do you need from us?

H: well I would need to understand the process and the component parts – and like we said they can be anything, people, data bases, another process. How about I write this up and get back in touch with Alice?

A: yes that's fine with me. I'll be here as will James so if you need anything just shout.

H: thanks very much. Let me switch this gadget off and I'll pack up. Thanks again for your time today.

J: it's a pleasure, really. Good luck with the writing.

A: Thanks Heather.

Transcript end

Location: FLS Offices, London

Date & Time: 14th October 2008; 14:30 start

Attendees: HS (H), James Duck (J), Alice Brown (A), Paul Deschamps (P)

Objective: Find the BPRN; Discuss the BPRN evolution

Materials: network definition templates hard copies; DVR; notebook

Transcript starts[1]:

H: Hello again James, thanks for letting me do this follow up.

J: No problem at all Heather, glad to help out. I've asked Paul Dere to come along as he's in charge of the technology we use here – he's got a vested interest in the whole thing since its his

brainchild that got us out of the mess!

H: Oh ok. Is Alice coming?

J: Yes yes she was just in the lobby. Oh I see the gadgets out again, I hope you've brought more batteries this time.

H: Yeah thanks James, I have extras. Anyway, yes gadget is here and on. I did the last transcript myself but I'm not sure I want to go through the pain again – I

[1] *Note to Self: the numbers inline refer to my notes on annotating the transcript*

am sure I can wangle some secretarial support if needs be… Hmmm no on second thoughts, I'll do it myself. Easier to cut out the biscuit munching!

J: [laughs] Aren't bourbons great? I always think you can tell a lot about people who whip the tops off biscuits!

A: Hello again Heather, long time no see – all of about a week or so I think! How goes it?

H: Oh you know, out of mischief mostly J: More's the pity, eh?

A: Did James mention he's invited Paul?

H: yes he did. He's the IT guy, yes?

A: yeah like James is the adviser to the CEO, Paul is the CIO's right hand man. He's really nice, don't worry!

J: Yes he's a very handy chap – he helped us do the company wide project for referrals. Speak of the devil. Paul. In here. Paul this is Heather, she's the doctorate student from Cranfield. She's doing some research on us. Well not us, makes us sound like baboons or something. No no, she's into networks and processes and changing and I thought you might like to join us as you did the referrals project. Heather this is Paul Deschamps.

H: Paul.

P: Hello Heather, its nice to meet you. Alice. Good to see you again.

A: Hi Paul.

J: So Heather how do you want to do this? I mean we talked last time about the possible use of the client matter induction process – I mean that's probably the biggest link we have to the outside world and the biggest one where we've had to rejig stuff in the last few years.

H: That's the one. I can do the intro thing if you think that would be beneficial?

J: No no best crack on. What do we need to cover?

H: Well there's a number of things I need to get out of this particular session – I need the story of the evolution of the client induction process, sorry client matter induction. And I'm hoping in the course of that, we can identify the core components in the process which have changed, and hopefully why.

A: Well I can talk definitely talk thru some of that – I was the recipient of the incoming transactions

P: James is this the firm wide referrals piece?

J: Yes this is client matter induction with the referrals. I think this is right up Heather's street. You did the global IT piece in the last 2 years.

P: Yes its so long ago. Are you IT? You don't want to come and work on IT projects do you?

H: Erm… thank you but no thank you. I have enough on my plate!

A: Heather's knee deep in another client project that I was working on, its all my fault she's here.

H: Yeah thanks Alice. Anyway, I'd like to kick this off if I may. The objectives I have for today are to capture the story of the evolution of the client matter induction process – with the referrals piece I

guess that now includes the IT side of it?

P: Yes it does. 3 years in the planning, 6 months in the implementation. Saves us 1 month every time we do new business.

H: Now that sounds exactly like the detail I am after.

J: See? I told you he was a useful chap.

H: So if I explain a little more on what I want, and then attempt a few probing questions? Does that work for everyone?

A: Yeah fine.

P: But of course.

H: So I need to understand how the process has changed into the way it operates today – I mean in terms of if any steps changed or if any parts performing the process changed – so for example James would fill in a form for new business and pass it to Alice yesterday, but today he types in a subject area with a client name and its routed automatically. Just as an example. There's also a complicated aspect where there are dependencies or not between people or between a system, or another process. I'm sure that will come out as we go along. That's probably quite a long intro to this, are there any questions so far?

J: No no, all good. We had a chat last time so Alice and I probably have a heads up anyway.

H: So can you tell me how you used to do the client matter induction process before Paul did the referrals project?

J: Yes of course, how far back do you want to go? I mean since god was a boy or when we really started having a formal process?

H: Well have you always had to do this process? It sounds like new business take on anyway, so is there any particular point in time when it became a specific set of resources, people, technology,anything?

J: Hmmm. Well we kicked off in 1850 or thereabouts but I wasn't around then [laughs]. No really. Let me see, I think the late 80's was a process mad time when we had all these efficiency things going on and what not. I think that was a time when we first started doing stuff in a consistent sort of way. It would never be 100% consistent of course because clients change all the time, but I

suppose the take on process itself would have been pretty similar across the board. Alice when you did you join us by the way? 2000 something wasn't it? Just trying to think of timelines here.

A: Not till 2003. I can probably chip in from then really. The late addition here is Paul.

P: Last to join yes that's me. I am probably more relevant from 2005[2].

J: Ah but Paul has the meaty project which I think Heather is going call our single point of failure – eh Paul?

P: Its possible. But you haven't said how it is so.

H: You know I've been warned about leaping to conclusions. Can you explain how your business process evolves to how it looks now?

J: Yes of course Heather, sorry. Tail wagging dog there. Yes so probably late 80's. Lets start with that as a marker in the timeline[3]. Let me see what did we do for matter induction? Does it matter what the reason for it was? I mean can the reason for take on have come from us getting smart about something[4]? Or spotting the brown stuff before its hits the fan of legal life[5]? Clients come to us anyway. Just thinking out loud here. Reasons for take on. We offer it as a service and someone wants it[6]. We spot something that is going to affect clients, and snowball a rationale for getting a

[2] Paul is French; brought in expert for FLS to look after their technology strategy

[3] Possible start in timeline

[4] Triggers for change

[5] Trigger for change

[6] Existing service to new market potential – trigger for engagement to outside

bunch of people together to solve a problem[7]. We get hit with lord knows what from various institutions who pass out legalese for the real lawyers to interpret – which means its affects advice[8].

H: So what would happen with those examples?

J: Those things haven't changed to this day; its just the rate at which they come at us[9]. And of course that means we have to react. And reaction means effort, and billing, and fees, and building the portfolio. Ah portfolio[10]. Touched on that last time didn't we? Yes its all about portfolio when all is said and done.

H: So can you tell me how the take on process worked back then?

J: Yes of course I digress. Alice's smiling at me. Rambling again tut tut. Yes. How did it work back then? Lets take a typical example. Client contract issue[11]. Steps back then would have been on the lines of an introduction to a legal subject expert[12]. Said expert would have had to check with existing subject experts for similar cases. Could be some other chappie has done similar stuff before. Could be we have a whole army versed in the issue13[13]. We would have had to check the history file[14] – bloody great library, fire hazard in its own right in my view.

H: History file?

---

[7] This looks like pulling together a social network to solve a commonly occurring problem

[8] External trigger based on regulatory or legislative content coming for assessment – do they need to react or not? If it affects advice content then yes

[9] Possible increase in rate of external stuff being acknowledged

[10] Portfolio – looks like the link to capturing the results of the process performance – link to performance management

[11] Example start point for process operation

[12] Step 1?

[13] Step 2?

[14] Step 3 referential check to a critical artefact- data sink?

J: Think of it as a tree huggers nightmare. Paper everywhere. I mean I think we housed a rainforest for the best part of a decade. No no the history file is like the background library against which we check all our clients, old and new, in case we have conflicts of interest, we have same client popping up but lots of issues, or we have some chappie in house who always deals with them. It was our way of trying to make sure that we looked after the client with the right team, giving them the right advice.

H: So there's a client, a legal subject expert, a history file, and a checking process?

J: On the nail.

H: Was that it? I mean, just those elements?

J: Well pretty much everything was a manual process. We didn't have the links we do today with half the stuff that goes on now. Ah, this is where you're going with this isn't it. Ah. Yes. You know I've only ever been part of the evolution, not the observer. Oh that's not true, of course I see things happen. Probably not as you do though eh?

H: So if I stick with this simple, if I can call it, that set of resources in the first instance? How are they joined up? Is it because they depend on each other? Does one thing happen after another? Are there any critical exchanges?

A: Is this because some links are more important than others?

H: Well this is about understanding the links between the elements, and whether they become set dependencies or whether they are totally flexible[15].

A: Oh I see so James's history file is critical for example. Well critical to the SME anyway[16].

---

[15] Me trying to clarify

[16] So link type to history file is time critical and information critical – check type to G&S

J: Well it was there to provide referential integrity. That doesn't mean we squirreled away in paper going back and forth confirming every last detail. Hmmm. Actually yes it does, we would have had to do that then. We didn't have referrals! Yes so the SME and the history file would have been inseparable until the matter was determined as posing no conflict, and decision was made to proceed with the matter. Or rejected if it did.

H: So there was a 2 way exchange? I mean the flow of information always came from a client and back to the client?

J: Well yes, I mean treat all the relationships as 2 way. I think the critical one is the SME and the history record, simply because if that breaks, there is no referential integrity. No no it had to be pretty close knit back then because we didn't have the mediums of exchange we do now17[17]. I mean of course we still talked to each other, but it was the paper message, contract and what nots that were the important bits. Nothing moved without dockets[18].

H: So how did the process change from there?

J: Well I think in the background we always knew this would have to change… mainly because we had SME's building their own cottage industries to demonstrate their portfolios[19].

H: Did any process steps change?

J: Ah now do you mean did we change a step in the process, or do you mean, did they do the same process but in a different way? You've got that quizzical look on your face, perhaps I am not being clear here. Did we change a the step in the process? Yes we did. We continued to accept instructions from clients, those instructions clearly went to SMEs. SME's would ferret about in their home

[17] Q to think about; does "close knit" mean all the exchanges were bidirectional without any time or content issues?

[18] This is just the medium of exchange – doesn't matter. Its whether the r'ship is time bound and content critical?

[19] Looks like a propagation of discrete resource specifically "attached" to an SME

grown portfolios and case records. But this time round we had a central function for case records. I think that was the first recognition that having some sort of centralised reference point

would be good[20]. I mean essentially all we did was build one bloody great library and shove all the records in one place. I think many sectors were going through that centralised common functions review back then. Supposed to be part of that wider efficiency agenda[21].

H: So when did you realise you'd be potentially better off by centralising this?

J: Hmmm. Not entirely sure. I mean its bloody obvious if you've got teams of SMEs with their case records and multiple clients asking the same kinds of things – all sorts of issues can crop up in conflict terms. No no if we take our start point from say 85, we knew we had to change the way we did the take on by 86 – cottage case industries were becoming a serious overhead, and lord knows if it went pear baloney then we'd have an entire team on the hook[22]. No I'd say we were in line with business thinking at the time and moved to centralise the record system if nothing else in 86[23]. Our library is still in use today, but that's another point I suppose.

H: Was the records centralisation complete in 86 then?

J: I think it was done and dusted by spring 87[24].

H: And did it make a difference to the way you handled client matter induction?

---

[20] Resource network configuration change!! Pet resources consolidated to single point of reference – manual library

[21] Recognising that single library better that SME based ones – easier to manage and maintain? Possible trigger for cost efficiency

[22] Puts the SME as the single point of failure not the record base? Ie critical dependency is r'ship to their own database. By moving to central library, at least any SME has access…

[23] Recognition of need to change took a year??

[24] Took another year to complete the SME data move to central library? Poss 15 months?

J: You have to remember Heather that this is all about portfolio. What we had was a bunch of chaps who did their own thing, their own way, and squirreled away the history files and then ran their books and billing off them[25]. I mean can you imagine the questions this raises? Portfolios mean prizes – well, fees and salaries and shares and such like. I mean you've got a bunch of chaps, who can essentially report their own portfolio, based on everything they control… its no wonder there's a sense of paranoia really, couple of investigations or visits from internal audit and let me tell you its enough to make these chaps squeaky clean…Yes so its all about portfolio[26].

H: So did the clients benefit from this move to a central record system?

J: Oh you're asking me the same thing and I've answered something else. Hmm well yes I think it did actually. We were certainly able to respond more quickly to confirm take on[27], and have all the relevant case data available far more quickly. I think it used to take about 4 weeks from point of contact to confirmation of transaction requirements if I remember rightly. Lord knows what it was before then; I think it was entirely down to the SMEs, but if you're growing your business, then increasing the client count and transaction types is always a good thing. I am not convinced we

measured that kind of thing effectively back then[28].

H: I think I spotted a number of extra elements creeping in there, can I just check what I think I heard then?

J: By all means, my ramblings often need a second visit!

---

[25] Direct process to process link!! Performance capture point (portfolio) fed by booking & billing

[26] Recognition that set up is flawed ie controlled direct by SME; to remove doubt need to reroute data

[27] Recognition that changing the process meant response rates to clients improved

[28] Possible link to performance measures in portfolio & dependency on showing response rates

H: [laughs] You keep mentioning the link to portfolio, this is clearly a performance measure.

J: Yes that's absolutely right[29].

H: And to contribute to the portfolio, SME's have client matters which they essentially have to book and bill to show the business building up?

J: And that's right too. I think the centralised history set exposed a flaw in the set up. I mean I think the system had an inherent weakness because essentially, think I mentioned it, SMEs could show book & bill straight to their own portfolio without too much checking[30]. I mean we were in the late 80's here, Wall Street and all that greed is good tosh. Can you imagine the temptation? No I'm not saying of course that anyone misbehaved, but I think we suddenly became very conscious that client take on and the link to portfolio was very important.

H: So did SMEs have their own booking system for work?

J: Yes its always been there. Its like when you first join a new firm and you get the guided tour, here are the rest rooms, here is the gym, this is your corner, you get paid on the 1st of the month type thing… it's a system by which every law firm lives –booking and billing[31]. Ah hang on, you want to know the connections don't you? You're nodding. That's good.

H: [laughs] Yes that would be good!

J: So let me see. Back then the connections would have been between the SME, their book and bill, and their portfolio. Now of course its slightly different. Ha yes, we hived off the booking & billing, and just to make sure these chaps

[29] Portfolio is definitely the link to show goodness

[30] Trigger to change the routing of data – see 25

[31] Critical dependency on another system – direct feed to portfolio

were playing by all the rules, there's this referential link to the history file[32]. Yes booking and billing is process in its own right, now belongs with the bean counters[33]33. That essentially is how it works today.

A: Except that now we have the added issues of time recording to ensure the right teams are booking to the right projects[34], we have that internal thing for resource booking, we had the project to migrate the history files and make it part of the wider piece.

H: oh hang on, slow down, I heard about 4 different things in there.

A: if I can just leap in from James there. I think its important we distinguish between current case load and history, simply because once client matters are treated to solution, then they are closed. Remaining on file of course but still closed[35].

J: Yes you're right.

A: So Heather I think it slightly more complicated. If I think to when I came onboard in 2003, we absolutely had in place a time booking system that allowed us to book to the right client – that's probably the link to the Book & Bill. You could only book to current case load so that was a check against the history file, and a match to current case volume[36]. And that's important because we started getting clever about how much it was costing us to actually take on client

[32] Another link: book & bill to history file – referential integrity; pos not time critical but def. content critical

[33] This process owned by someone else – does this matter?

[34] Dependency on another system – time booking, must join up to book & bill

[35] Possible separation of archive data library from current case matter library – probably a referential link to make sure you cant book to closed projects. Makes sense.

[36] Think: this looks like the pattern links in the process to artefact and people to artefact

business as well as understand how much was being generated from them37[37]. Like portfolio profitability.

H: I see. So what happened in the 90's? Did the process stand still for 10 years?

J: No no. Hmmm. Well maybe. Depends what you regard as movement really doesn't it?[38] I think that like a lot of the firms at that time, we grew our practice significantly, global expansion. Today London, tomorrow the world! No I'm joking. We did open some significant offices across the globe though. And that meant, by implication, ensuring we had a consistent take on process for all

matters[39]. I mean of course you're going to get local variation, but at when it comes down to it, you still have to find the SME[40], there's still an internal referral against client conflicts and history[41]

and what not, and there's still a bunch of chaps who do the clever stuff and book to it. That's not a fundamental process change though. That's a consistency of process.

A: So one of the problems then was making sure everyone was using the right systems…

J: well no it wasn't a problem, more an issue of investment[42]. Global expansion comes at a price. Take housing for example. You don't just go plonking down new builds without making sure

---

[37] Is this a measure of process effectiveness? Cost of servicing CMI process?

[38] 38 Looks like process stood still after changing to a set form, then it starts being joined up with same process in other offices…think: is this an example of network joins?

[39] Process consistency to drive operational efficiency… does this go back to any maturity of process debate?

[40] Touch points consistent regardless of environment

[41] Same process check against same artefact

[42] So process adoption depends on having the resource network provisioned…

you can run electricity and water now do you? That's a sensible infrastructure decision thing, planning departments that get that wrong should be sacked… no don't tell me, I know, its happened,anyway, yes, infrastructure. I mean the nuts and bolts that make it all work together, and that's probably where I can defer to Paul. Now just by way of background, I can help paint the picture for the 90's if that will fill any gaps?

H: That would help me, especially if you were doing stuff to the scale of the resources.

J: Ah yes good way of thinking of it. Yes, Scale, absolutely. Not all at once mind[43]. We did have a plan! Well, someone had a plan…Let me think about this…You know this does all come down

to Portfolio. So imagine if you will that we have systems which have been in place for 10 years or so – probably the last stable position at the end of the 80's[44]. We have a global programme in

place to grow the business. So there's several things going on in the same time frame. We have practice areas growing as a result of common themes emerging from our client matter induction[45] – everyone has a problem with the green agenda for example. Which now take us a week to identify not months anymore[46] – Paul is grinning at me. You know you have to watch the quiet

ones. No really, I mean he hasn't said much but he can probably see where I am going with this.

P: Perhaps [laughs]

---

[43] Is this a way of talking about incremental scaling through joining up resources?

[44] Stable process set with embedded operation for consistent output

[45] Business trigger: CMI process replicability; practice area thru

[46] Trigger response rate reduction as a result of direct query against centralised database – not possible on previous configurations

** Alice has left room for client call**

J: Let me come back to that infrastructure principle. Building blocks of process. So to ensure consistency across all our offices, we have to join them up. I mean its one thing to call Frankfurt can chat to whoever, that's just the social exchange[47]. I'm not denying the benefit in that. Of course there is. Might even be very important –social oil greasing the wheels. But the meaty transactions, do you see, the meaty transactions are electronic[48], they're the referrals cases to cross check against the history and current case loads. And how do we do that? Let me tell how we do that. No let me ask Paul. Your turn.

P: So it's a common business problem. It's about delivering a scale of capability, and that scale is global[49]. We are still talking about the same process, yes? Matter induction? Yes, good. I cant really say that the process is good or bad, this is for the legal teams to comment. But the process itself has a number of critical pieces, like a jig saw. Everything has to fit together. It has to fit together on a global scale, but allow each office to function on its own[50],[51]. So do you want to know the system details or can I explain you the evolution of the jig saw?

H: I am very interested in the evolution of the jig saw…

P: Good so I continue. So we have many systems to make just one process work successfully. We have the system for booking and billing, which means we have to have in place the system for time recording for every body in this

---

47 Importance of social connection

48 Critical medium of exchange changes from social to electronic between the technical systems

49 Easy to join up the technical resources?

50 Actually this only implies that each office has an identical network of the process resources, but only the technical exchange media are the real connections. Social ones are just "friend" as the real process is the information exchange which contributes to portfolio/book & bill/etc

51 If each office has to function on its own, is this a discrete network??

company[52]. And we have the system for holding all the history files, and the current case loads. And we have the accounting systems which make the portfolios and the finance reporting. And this is the same for each office. Practically. So when I arrive, I am asking myself how we manage these systems....Is it ok?

H: yes yes, I am just trying to make some extra notes

P: Bon. So all these systems. They are all connected to each other now, sometimes its more critical than others. Sure, sometimes its very important to have accounts running the portfolio reports – this is where we measure how good we are, yes? [laughs]. No but its only for a certain time. Its only critical in the last week before the month end; at other times its not a problem.

H: So you have a dependency with only a limited time duration[53]?

P: Exactement. Exactly. That's exactly what it is. The system itself is there all the time, receiving updates, or having queries posted against it, but the CFO he doesn't get his informations in the right time, and we are in trouble, you know[54]?

H: Yes?

P: Of course. So the portfolio always relies upon the book & billing[55], and this always has to refer to the case histories and the current matters. It is to make a reference, it is to make integrity of the data. So now we have several things. We have an increasing case histories problem[56], and we need to make sure we can give our clients the services they need because we have identified legal

[52] Critical dependency!! Resource system is an underpinning component – book & bill wont work if this not in place

[53] Time criticality can apply only for certain duration… then it reverts to … what? A standard bilateral exchange

[54] Another stakeholder identified

[55] Note this as dependency if I haven't captured it already

[56] Limitations of single technology artefact? Is this a design constraint of the technology or is this growing as result of its success as the single reference point?

activities which can affect them. So what to do? We have multiple systems. Now I am just the IT guy. [laughs]. No really. Think back to the 90's. Same process, multiple places. Many of the same systems. Of course we try to consolidate the number of systems; we are managing all these technology pieces in lots of places[57]. So we try to work out how to group them all together[58], or at least manage them all together to make our job more easy. We are a legal company. We could argue we don't do IT but its in our nature now, in our process, because we have electronic everything[59].

H: So are you saying you pulled resources together to try to make the running of the process more efficient?[60]

P: that is it. I mean it makes sense for some things, yes?[61] Desktop access to all the common applications – I don't want the hassle of managing these. Now you find this funny maybe. We tried outsourcing the technology, the management of the technical components and the basic applications. We have our special legal ones, we keep them. So we do this. We try a contract with a big company – I cannot say which one – for them to look after it all. Just London to start with. Then each major office would have their technology migrated to this contract. It makes sense you think to outsource? Yes it can be good[62]. Not for me though. I have then my critical systems on technology I cannot control. Sure there is an agreement, for an SLA, but this is placing a formality around systems I do not need. It takes operational control away from me[63].

---

[57] Managerial overhead associated with systems management

[58] Is this a consolidation of distributed systems?

[59] Embedded IT in a business process…

[60] May be construed as leading question

[61] Distributed systems management through outsourcing?

[62] Can you outsource responsibility for critical systems? PD doesn't think so

[63] As soon as a controlling contract is in place, the control over the technical resources is no longer effective? Is this just a control issue or does placing a formal wrap over a relationship make it more rigid?

H: I thought outsourcing was a very common thing to do with technology when technology wasn't a core part of the business?

P: yes exactly… but here we are critical to rely on it. This way we retain total control over the asset as well as the process. We can choose how we distribute the resources[64]

H: You mentioned the case history problem as well…

P: So this is the big project referrals that James is talking about for me. So one of the things we had out there was all these mini versions of the case history collections, local data bases. And if you wanted to ask who has a common client, you have to speak with each country office for example. Like a lateral line was joining these databases to make the capability in referring a new client[65]. Now we have a query running on a database in one place, talking to every database out there. Joining up the same technical resource. Remember the process has not changed himself. It's the technical parts which now are in place. So its very slow. It's a problem. So I am here and I see this. So we start a new project, a central data warehouse project. And the simple task we have is to migrate all these different data bases to a single common system[66]. The problem we have is that we have 10 year old data structures which do not support the level of details the CEO wants to support the decision making[67]. So we have to make it. And in doing so, we have to make it join with the other systems. To booking & billing for example. I mean the reason for this becomes an economic one. Firstly we have the overhead of multiple systems instead of

[64] Control over asset distribution?

[65] Network joins at common points

[66] Replacement of specific technical components with one in effect – migrating the resources out of the process network but joining to a single resource? Isn't this like closing gaps?

[67] Business drive anyway: data structures not supporting decision making

one. Secondly, the data is mission critical and we need to manage it centrally[68]. The business is growing, the CFO wants correct reporting against profitability[69]; the CEO wants portfolio positions[70], its all fragmented without this warehouse solution. So we do this migration project. It is obvious isn't it that this supports more than just the referrals now. And we have to change other business processes – not to make the informations change, but to change where we put the data[71]. In the warehouse. So it's the data flows which are important, not what people use as application or something.

H: So does everybody's data end up here now?

P: Effectively. For client matters, for billing, for everything. And our reporting. And if we have a new process, or a new system coming, we make a join to the warehouse[72]. There will be a point where the business process needs to have a reference, or we need to extract who has all the clients in aviation, or who has anything on commercial litigation in a domain, public sector, health or something. [laughs]. Like all roads leading to Rome. All flows lead to warehouse[73].

H: And how long has all this taken?

P: Well the investigations when I joined had started already, which is how I knew we had data structures more than 10 years old.

---

[68] This is probably why JD called it a single point of failure…. But if its a critical technical resource which the process uses on a global scale, it will either be a distributed system on a private network (most likely), or have an extensive BCP/DR process… is that another network to ensure safety? Business risk?

[69] Stakeholder CFO demands

[70] Stakeholder CEO demands… I cant see any conflict here (yet)

[71] Redirection of information flows to warehouse from other systems; changes the connection points.

[72] Critical dependency for new systems? If new processes come in that have a referential data process, implication is that there is a link to this resource…

[73] This looks like a closing of gap across any other network – all being connected to the same point of reference. Is this is a link to the closing of structural holes??

J: Heather you need to remember that certain legal processes can take up to 5 years to change[74]… what Paul is describing here is the gradual build up of technology within lots of processes, all of which we need for client matter induction, do you see? And better still, he's sorted our biggest investment to make sure we can run the business for the next lord knows how many years.

P: Exactly. Its like an ecological adaptation of both our human network and our technology components… they evolve to meet our changing business needs[75]. Sometimes its not obvious if a process himself doesn't change – but the technical components or the informations routing does. This is how we all make the most of our investments – everyone benefits now.

H: So how do you determine your business needs?

P: Hmmm. Well its driven by our market advisory function who watches the market for influences like regulation, or new legislation, this is where client matters come from[76]. James is smiling at me – yes he is the market adviser! One of them anyway[77]. But I would say we are good at looking to our clients. If there are needs from our customers in special areas for example[78]. And because we have these systems, these resources, we can provide very good answers[79].

H: So this all contributes to the portfolio, where the results of this process are shown, yes?

J: Yes Heather, that's it exactly.

---

[74] CMI process changed in scale but not process once the initial internal audit conflicts resolved? This looks like the timing of responding

[75] Useful quote!

[76] Market or environment driver

[77] JD is actually the COO…

[78] Customer driver

[79] Looks like a response rate clue

H: So what happens if the client matter induction isn't successful, or you can't provide a referral answer, or it takes too long or something?

J: Ha ha, of course we have to keep the CEO happy because he calls on us to make it all happen. And if it doesn't, we have to jolly well fix it[80]. I know I said portfolio was all, but I wasn't kidding!

Nowadays success is probably a combination of things – of the Pauls of this world making warehouses, for the SMEs of this world like Alice to bring bread to the table. But you know sometimes, and indulge me here, its not all driven by response requirements. I mean take the Carbon agenda, the green politic of the day. We can tell you thanks to our warehouse who is doing what right now on it, how much that client base is worth in bookings and billings across the market, every sector, across the world. Marvellous. Lets say we decide we no longer do green. What happens? Well I'll tell you what happens. We hive off little networks of people, SMEs from our offices, like virtual teams, building communities. Well the network effectively splits off the areas to create sub networks and they are free to evolve on their own, just as we are[81]. We may choose to develop that as a capability practice at a later time, but we need a critical mass to make it worthwhile. And that doesn't just come from the human capital. It comes from exploiting all our warehouse intelligence, market intelligence, and big decisions from bigger trousers on where our

priorities lie. We can't always choose what not to do. That's the whole point of client matter induction. Its our big engage with the outside world process. And if course if we get it wrong… portfolio suffers[82].

---

[80] If the CEO calls for change as a result of not happy, then this is the internal guy calling the shots

[81] Deliberate split in resource network – typically at SME level; human layer not technical

[82] Absolute link: portfolio = measure system for success

H: You said a phrase I just noted: its not all driven by response requirements. You then talked about splitting off little networks. Does this mean they can evolve without you entirely?

P: well there is no reason why they cannot[83]. If they have the system links in place to support their business drivers, its not a problem for them. Do you mean do we split out little companies? No. Not if they are using our systems! No its not possible. Do we have the capability to create specialists because we have the systems in place? But of course we do. This is what James is saying, is it not?

J: Exactly right Paul. If everyone went and formed splinter groups because they felt like it, we would be in total chaos. No, what we have now, in the last 5 or so years, is the ability to support both the creation of capability with the necessary support structures – warehouses and such like – and we have the ability to act very rapidly when matters warrant it. Paul has given us the technical flex we need, the process itself hasn't changed much in the last few years, so its down to our internal response rates for bookings and what not. And of course portfolio. You're smiling. Have I said something wrong?

H: No no. I am trying to find a way of phrasing purposeful evolution without it coming out as so do you think your client matter induction process has evolved in a purposeful way because I just know that someone will be reading this when I type it all up, and they're going to tut at me!

J: [laughs]. Ah yes. Well for those of you reading this entire interview, Heather's only dropped the bourbon dunker once. [laughs]. Sorry. No seriously. Is the question about how this process and its components got to the state they're in? Well I think we've covered most of the what happened, and we have most of the why in there too. Was it deliberate do you mean? Deliberate in the sense that we made specific choices to pursue particular courses of action? Then yes we

[83] Does this mean that splitting the net means separate evolutionary path? Looks like it.

did[84]. I mean Paul will tell you about technical strategy stuff, and what type of systems are in place and why. Of course the process itself had tweaks in the early days – like all processes do I imagine – but its how that process fits and works with everything else that counts[85]. And I know you think we're the tortoise in the industry, but we've had to build our systems and processes to deal with everything that is thrown at us. Probably why we've deliberately chosen to specialise in certain sectors, and certain legal practices. That's more business driver, isn't it? You can thank the CEO for that.

H: oh ok.

J: note that bit quick – extra points!

H: I'll try. Well I'm conscious that we're just over the hour and I have to make sense of all this – I'll be having nightmares for the next month I expect!

J: Your little flashy thing hasn't complained this time I see. Do you have everything you need? I mean Paul here can probably send you the systems diagrams if you need them. No, wait, no he cant. Sorry, my mistake!

H: I think I have more than enough to worry me now. Thank you so much for talking with me this afternoon. Please can I email you any points I'm not sure about?

J: Sure. I have to dash but Paul here can escort you out. Lovely to see you again. Good luck with the write up.

H: Thanks James.

Transcript ends -

[84] Link to conscious decision to build the resource network

[85] Process network has to have defined touch points for inputs and outputs

Appendix 5

Survey: Continuous Organisational Transformation through Business Process Resource Networks (Draft Instrument)

Factors of Actor Network Morphgenism - Survey Print Hard Copy v10.pdf

(attached)